YACHTING

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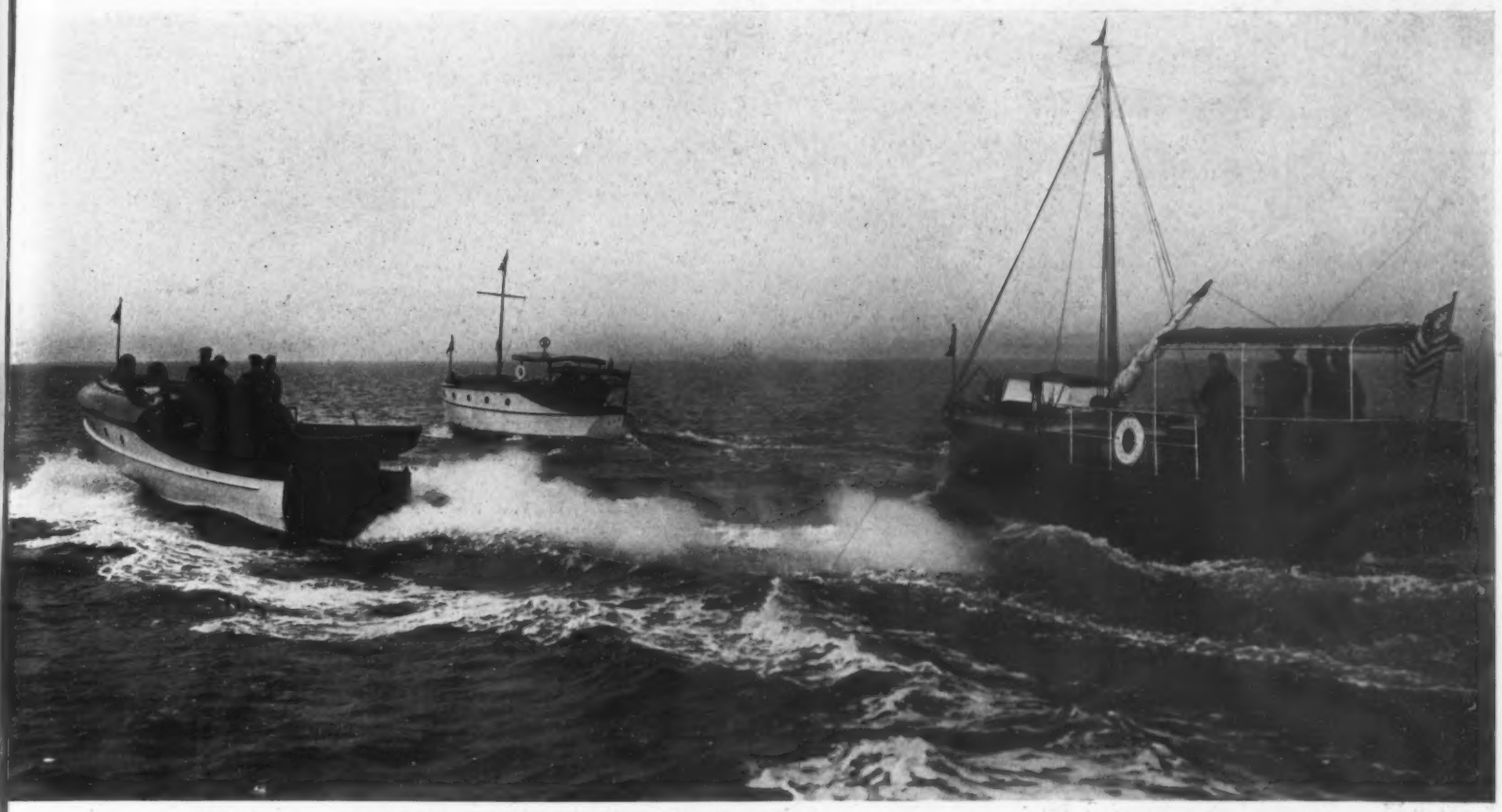


THE SCRAMBLE TO BE FIRST AWAY IN THE LONG RACE TO BLOCK ISLAND. CERO, THE WINNER, AT THE EXTREME RIGHT

The Block Island Race

THE Eighth Annual Power Boat Race to Block Island of the New York Athletic Club was won by the 40-foot ocean cruiser and racer Cero, owned by W. P. Frost, which crossed the finish line at Block Island at seven minutes after five on the morning of June 27 with an elapsed time of 12 hours, 7 minutes and 6 seconds for the run of 115 statute miles (100 nautical miles). Seven boats started at five o'clock the previous evening from Whortlebery Island off New Rochelle, the fleet being about evenly divided between high-speed express cruisers and low-powered cruising boats. The former division consisted of Flyaway III, last year's record holder, now owned by R. L. Upjohn; Romany, a new 50-foot V-bottom boat owned by H. S. Duell; Houp La, a 45-footer owned by Harold Wesson, and W. E. T., W. E. Thomas's new cruiser; Satsun and Intrepid, with Cero, formed the second division.

Flyaway III took the lead at the start and was never headed. She made a remarkable run of 5 hours, 40 minutes and 20 seconds for the 115 miles to Block Island, arriving shortly before 11 o'clock the same night. In spite of her great speed and her 120 horsepower she could not save her time on Cero, which was powered with one of the new 16 horsepower, 4-cycle Mianus motors, and when corrected times were figured Cero won by 33 minutes and 58 seconds from Intrepid and 40 minutes and 57 seconds from Flyaway.

While it is not logical to run such widely different types as Flyaway and Cero in the same race and expect a rating rule to equalize the difference in speed, the performance of the Cero is a wonderful one, and it is doubtful if any boat of her type and displacement has been driven as fast on her horsepower. She averaged over 9½ statute miles for the whole distance, the engine, a 6″ x 8″, 2-cylinder, turning up about 400 revolutions per minute,

Yacht and Owner.	Finish. H.M.S.	Elapsed Time. H.M.S.
Cero, W. P. Frost	5 07 00	12 07 06
Intrepid, H. F. Rudinger	5 46 10	12 46 10
Flyaway III, R. L. Upholm	10 40 20	5 40 20
Satsun, T. Farmer, Jr.	5 47 10	12 47 10
Romany, H. S. Duell	12 00 15	7 00 15
Houp La, H. Wasson	1 00 30	8 00 30
W. E. T., W. E. Thomas	Did not finish.	

Corrected Times.—Cero, 4:44:02; Intrepid, 5:18:00; Flyaway III, 5:24:59; Satsun, 5:36:08; Romany, 7:00:15; Houp La, 9:05:01.

The Sail Boat Race

The ten boats that comprise the sailing fleet were not as fortunate as the power boats, the weather conditions being anything but suitable for racing. There were flat calms, light head airs, mixed with thunder squalls, all the way, which made the time the slowest in any race for many years. The first boat in did not finish until 6:25 P. M. Sunday, while the last to finish, the Careless, did not get in until 3:15 Monday morning. The attached summary shows how the various boats fared. The first prize went to Pontiac, owned by W. H. Bowes; the second prize to W. H. Farrell's Señora; the third prize to E. H. Potter's Evelyn; fourth prize to Solita, Daniel Bacon's fine yawl; fifth prize to A. J. Dealy's Ogeemah. Solita also took the Handicap prize.

Boat, Rig and Owner	Length	Elapsed	Corrected
Pontiac, sloop; W. H. Bowes	49.0	30.45	30.00
Senora, sloop; W. H. Farrell	49.0	33.18	32.33
Evelyn, sloop; E. H. Potter	47.0	34.45	33.40
Solita, yawl; Daniel Bacon	37.6	36.52	34.12
Ogeemah, sloop; A. J. Dealy	29.0	38.53	34.48
Careless, sloop; C. V. Byram	30.6	39.35	35.45
Insurgent, aux. sloop; U. D. Cutting	33.6	Did not finish.	
Mahdeena, aux. yawl; W. R. Laidlaw	34.6	Did not finish.	
Olwyn, yawl; A. D. Seymour, Jr.	34.6	Did not finish.	
Wanderer, sloop; W. P. Friedlander	32.0	Did not finish.	

Start, 11.40, June 26th, 1915.

Factors of Power

ALTHOUGH it is bore and stroke that have most to do with the power developed by a gasolene engine, there are certain refinements in design that must be taken into consideration. Size and location of the valves, the arrangement of the in-take and exhaust manifold, proportion of clearance above piston (compression), and weight of the moving parts and the speed at which they are designed to move, all affect the power that will be obtained from various gasolene engines of the same size.

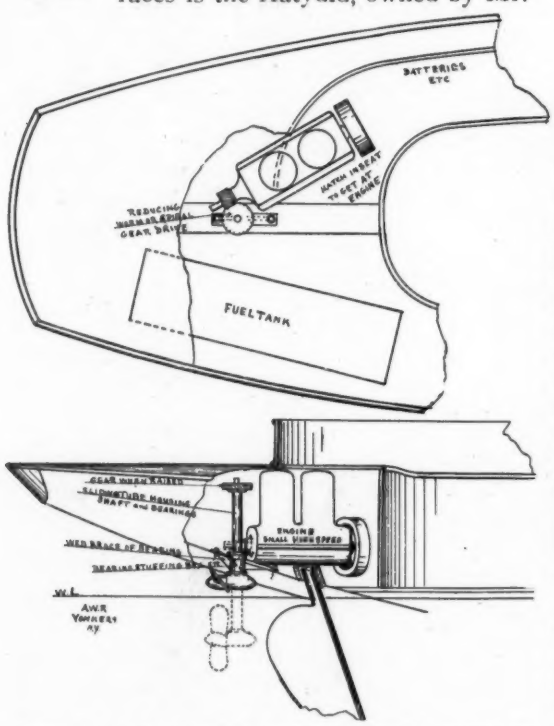
KATYDID, ONE OF THE NEW HAND V-BOTTOM RACING CRUISERS OF THE YEAR, OWNED BY J. K. VAN DENBERG

An engine of high compression will develop more power than will one the compression of which is not so great. If properly designed and intended to run at the same speed, engines of the same cylinder dimensions should develop the same power. Inasmuch as the speed of the motor is determined by the load (when operating at full power), it is evident that the same size and pitch of wheel cannot be used for engines designed to run at different speeds. A high-speed engine will require a smaller wheel or one of less pitch, while a low-speed, heavy-duty motor will need a propeller of greater diameter or pitch—or both—in order to operate the most efficiently.

Katydid, a 32-Foot Cruiser

A NEW boat this year that will be seen in most of the long-distance races is the Katydid, owned by Mr. J. K. VanDenberg, of New York City. She is a V-bottom raised-deck cruiser with a "baby" bridge deck, and was designed by William H. Hand, Jr. Her overall length is 32 feet, extreme beam 8 feet 8 inches and she is powered with a Sterling 4-cylinder, 5½" x 6¾" motor.

There are a number of unusual and novel features in the design and construction. One of these consists of watertight bulkheads, making her practically unsinkable. The engine room is amidships and there is a forward and after cabin separated by these bulkheads from the engine room. The fuel capacity is 120 gallons, and she has tanks for carrying 45 gallons of fresh water. She is an excellent sea boat for her size and was built expressly for fast work in rough water. Katydid started her racing career by winning in her class in the Columbia Yacht Club's opening races, June 5.



VERTICAL SHAFT DRIVE WITH HOUSING PROPELLER FOR AUXILIARY POWER FOR SAILBOATS

Vertical Shaft Attachment for Auxiliary Power

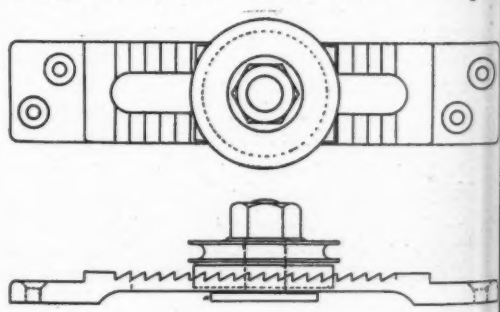
IN the July issue of YACHTING there is a plea for an outboard motor adaptable to small yachts. I doubt if along strictly outboard (removable) engine lines anything satisfactory will be offered. The plea, however, strikes a responsive cord in the system of this stickler for the good old sport of sailing, who does, however, recognize the practical side of auxiliary power and is anxiously looking for a solution of the power problem which will leave his boat unimpaired as a sailing craft. The enclosed sketch, which I have made, offers, I believe, a hint as to the desirable solution of this problem. I believe the idea would be practicable for craft up to 40 feet overall length and so meet the needs of the great majority of pleasure sailors.

The sketch explains the operation in sufficient detail. The features of the plant are as follows: 1. Power plant permanently fixed and ready at all times. 2. Propeller, when not in use, can be lifted out of the water, athwartships, and as flat as possible against the boat in the most out-of-the-way and inconspicuous place—that is, down under the overhang. 3. Propeller when down in water and in use clears rudder and leaves boat without a cut to impair her sailing. (Maine fishermen have found that decidedly better results are obtained by placing the propeller high abaft the rudder with the shaft horizontal. They do it by cutting off the top of the rudder and bringing the shaft out of the boat on the side of the rudder post.) 4. The whole power plant is situated under the after deck or seats, where it can readily be attended through hatches in same, and does not take up valuable space in the boat. 5. The plan contemplates using a small, high-speed engine, which, when not in gear, is free to use as a lighting and charging plant. Two single-cylinder engines, one each side, could be used on the same gear. The raising and lowering mechanism and adequate bracing to carry the thrust of the propeller when down and in operation are not serious problems and are left to the designing department of the manufacturer, who it is hoped may see the merits of this plan, work it out and put it on the market. There is a big field for this type of power that has not yet been touched.

A. W. RICHARDS.

An Adjustable Tiller Sheave

EVERY power-boat skipper has had trouble with slack tiller ropes, due to the constant stretching of the wire under the severe use to which it is put.

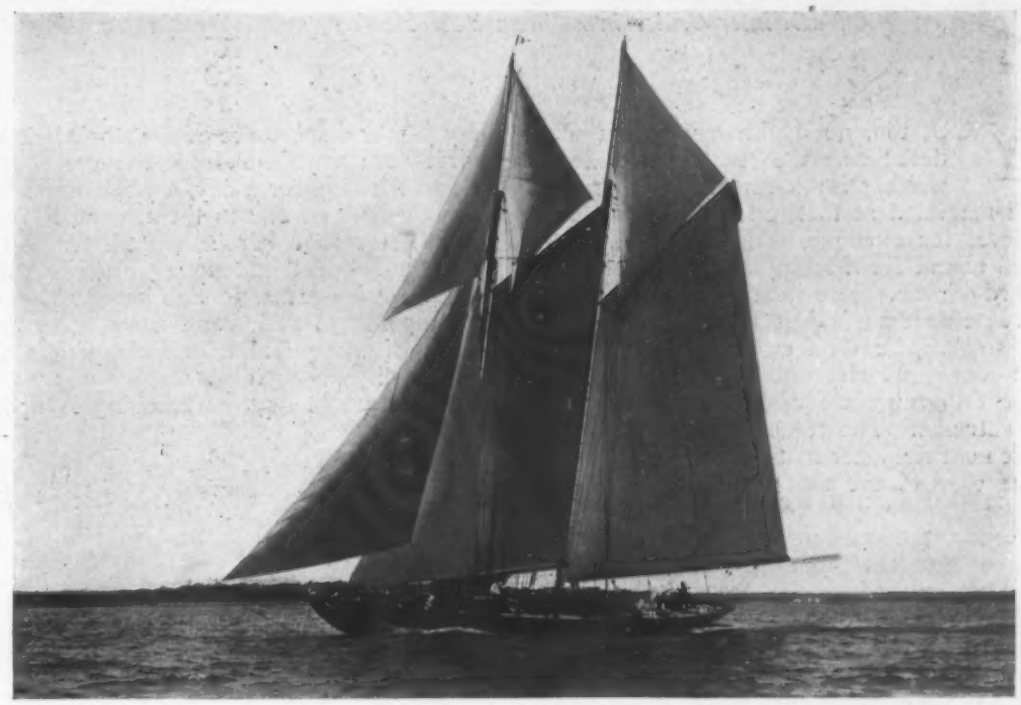


ADJUSTABLE SHEAVE FOR TAKING UP SLACK IN TILLER ROPES

A new device that has been brought out in England and used on some of the high-speed boats designed by Saunders, of Cowes, is an adjustable sheave by which this slack can be taken up with very little trouble. This is illustrated in the diagram herewith, and consists of a base plate which is serrated and has a slot in the center. Upon this base is fastened the sheave through which the tiller rope passes. The sheave is also serrated to fit into the base and is held in place by a bolt and nut working in a longitudinal slot. By loosening the nut the sheave can be moved backwards or forwards the required distance to take up the slack, thus stretching the tiller wires, and clamped in the desired position the serrations holding it in place, when the nut is again tightened.

The "Gravy-Eye" Watch

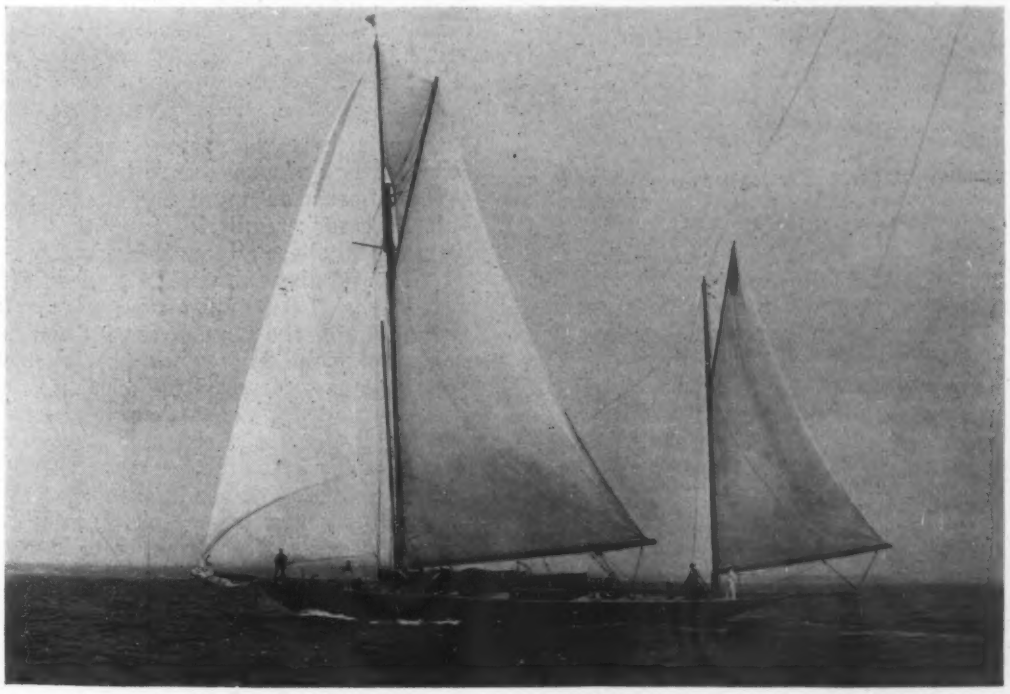
PROBABLY few except those who have been to sea on a windjammer know the meaning of the words "gravy-eye." It was (and still is) a term used by old sailors to describe the morning watch, from 4 to 8 A. M., when you turn out after four hours below and, with heavy eyes that can hardly be propped open, watch the dawn come as the deck pump is rigged and draw buckets and brooms manned for the morning wash-down. Though, maybe, not elegant, the term is certainly descriptive, and the announcement by the steward at 5 o'clock that coffee was ready was the first thing to get you thoroughly awake. How good the aroma of that coffee used to be as it drifted aft from the galley stove-pipe as we'd haul down the staysail to let the fire draw! No matter how much "bootleg" there was to the coffee served forward, the smell was always anticipatory.



THE EX-YAWL WINDWARD AS SHE NOW APPEARS UNDER SCHOONER RIG AND WITH AUXILIARY POWER

Yawl Windward Now a Schooner

RATHER an interesting and unusual transformation has been that of the yawl Windward, which was recently sold for Mr. J. M. Goetchius to Henry O. Whiton, of New York. Not only has the vessel been turned into an auxiliary by the installation of a 4-cylinder, 6½" x 9" Sterling motor, but she has been changed from yawl to schooner rig, under the supervision of Cox & Stevens. The Windward was originally a steel yawl designed by H. J. Gielow in 1907, and under her former rig was well known along the Atlantic coast and took part in most of the New York Yacht Club cruises. Mr. Whiton is rear-commodore of the Larchmont Yacht Club and the boat will be seen on the Sound during the season and will take part in most of the important races. Her new owner is enthusiastic over the boat's performance under her new rig. Her speed under power is 7½ statute miles an hour, with the engine developing about 45 horsepower.



THE WINDWARD WITH HER ORIGINAL YAWL RIG AS DESIGNED IN 1907. THIS PICTURE AND THE OTHER ONE OF THE YACHT ON THIS PAGE SHOW THE TRANSFORMATION THAT A CHANGE IN RIG MAY MAKE IN A BOAT

"R" Class on Massachusetts Bay

OUTSIDE of the "P" Class, where the Lipton Trophy fight is keen, at this writing Vernon F. West's Sayonara having taken most of the races, the interest on Massachusetts Bay is largely centered in the "R" Class, in which there are a number of newcomers. One of the new boats is a raised-deck racer from the board of George Owen. She is a big boat for the class, being 40 feet long overall, and in the early races, when the breezes were strong, did extremely well. What she will do in light weather remains to be seen. She looks very much like last year's "P" Class boat Britomart and has been dubbed the Britomart Pup. Another new boat is the Bud, recently purchased by Henry A. Morss from A. G. Hill, of New York, who bought her this spring. She is from designs from Goeller and was built by Wood, being a sister boat to the Margaret and Joyetta. Among the other "R" boats racing on the Bay are W. K. Harcourt's last year's champion Sumaki and the Alpha and Beta, built last year for C. H. W. Foster, but which did not do particularly well last season. Little Rhody II, the well-known Class "Q" boat, has been cut down to this class and makes the sixth boat of an unusually well-balanced fleet.

To Each Man His Craft

Of a Winter Cruise in a Down-East Hooker, and Why the Coasting Skippers Wait for a Fair Wind

BY J. T. ROWLAND

YOU, too, no doubt, have often wondered why the coasters are always waiting for a fair wind. We have all marveled at that, one time or another. Here, for example, is a fleet of a dozen sail bound East, lolling at anchor in Vineyard Haven. The weather is fine and the breeze southeast—just fresh. *We* come in from Wood's Holl one afternoon in our 30-foot yawl and anchor inside of them. Next morning we up-hook and away for Nantucket. The following day—or maybe the next one after that—we come back; and the chances are that if the wind all that time has hung easterly we will find our friends, the coasters, still obstructing the fairway to the inner harbor.

Two or three of the fleet only have left, and if our memory and powers of observation both rate 100 per cent efficient, we will doubtless be struck by the fact that those which have gone were the smallest and most deeply laden of the lot. The big fellows—great, high-sided three- and four-masters—are still here tugging gently at mammoth "hooks" deep-sunk in Martha's Vineyard mud.

It seems ridiculous, somehow. Time is money to these fellows, yet here they are deliberately throwing away half their time—and therefore half their potential earnings—because, forsooth, they do not find it worth while to try to beat to windward against a nice, fresh little zephyr which has provided our 30-footer with motive power for most of her cruise to the eastward. Surely, if we can make good our fifty or sixty miles a day to windward between dawn and sundown these great fore'n-afters with their lofty spread and tandem rig ought to find it worth their while to go to sea! Yet they don't go, and therefore most of us argue that the men who sail them are by nature a slovenly, lazy, stoop-shouldered, plodding lot.

I, personally, came to this conclusion while quite young. Still there was always something rather fascinating about the coaster fleet. Their very disregard of time and detachment from the hurry and scurry of the greedy steamers imparted a sort of air of "hoboesque" aristocracy. I classed them, after due reflection, not with the moving van and dray team of land commerce, but rather with the roving gypsy bands who labor only sporadically for the wherewithal to meet their modest needs and spend the major part of their lives in delightful wanderings through wooded byways. The old vessels, too, were such unconscious masterpieces of picturesque unkemptness. It was such a one as these that must have inspired Coleridge with the theme of The Ancient Mariner. With their raking bowsprits, seamy topsides and well-patched canvas they looked, indeed, the very part and substance of the storied ship: travel-worn voyagers from the great unknown loitering for a day, a week, a month (it would be all one to them, once it was past) within our harbor mouth, hence to depart unheralded and alone on their never-ending watery paths, no man knew whither.

Compared to their mysterious spell, the charm of smug and trim little yachts or business-like, hurrying steamers was as a strain of garish ragtime breaking in upon

THE GENEVIEVE WAS A TYPICAL DOWN-EASTER HAILING FROM ST. JOHN. SHE BOASTED TWO TOPMASTS AND A HIGH POOP DECK

the last quivering notes of a violinist's rhapsody. Nothing would do, I decided, but that I must in person share their lives and learn the recondite secret of their aimless voyagings. This done, I could endure, perchance, the humdrum, sordid existence of the schoolboy—feeding inwardly upon the consecrated memories of the past.

* * * * * *

"Wall, I reckon you won't do no great sight o' harm. We're callin' in to New London for a cargo of oak knees, an' you can come along that far with us 'tanyrate. Be down to the dock here at four o'clock sharp. I call'late to git an early start, come a fair chanct."

Thus spake the Skipper. He was a gaunt, rangey *young* man, deliberate in speech and showing unmistakable signs of acquaintance with the comforting weed—yet redeemed from commonplaceness by the possession of an eye as clear and piercing as an eagle's.

Going home I floated upon air. After supper I quietly collected the few essentials of the "voyage" (quite forgetful that it might save future embarrassment to include a few "shore clothes" to come home in), wrote a brief note to be left on the hall table in the morning, and turned in. Through the night visions of the Genevieve, of St. John, N. B., floated deliciously through my half-consciousness. She was actually a foreign ship, under the British flag: that was almost too good to believe. Also, she was a two-topmast schooner, a true seafarer, and she boasted a high poop deck. There was no one to tell me that this was an obsolete "blue-nose" notion, that the vessel herself was about as seaworthy as a scow and as dependent upon harbors as an open catboat, or that her meager crew of three men and a boy consisted of three frugal, simple, hard-working Nova Scotians—all brothers—and a rascally, blasphemous Yankee mate, who had been degraded from the deep-sea merchant marine through his inability to keep away from the bottle.

Moreover, if anyone had told me these things it would have made no difference: the portions of such information capable of being given a romantic turn would have been thus glorified, the rest discredited. It was my First Voyage!

It was not yet daylight when I was down alongside. An eerie, brooding hush rested over the unpeopled waterfront. The tide, already on the ebb, swirled small fragments of dirty ice along the schooner's bulging waterline—for March was not yet gone. Of sounds there were none save the occasional squawk of an early rising gull and the steady chorus of muffled snores issuing with clockwork regularity from the stuffy, dingy cabin where all hands bunked.

It began to be quite cold. At last, after untold ages, the family on a gravel barge lying alongside the same dock gave evidence of beginning the day's work (?). A large, frowsy woman inquired my business with what seemed to me rather unnecessary asperity; but on securing the desired information changed her tone quite abruptly, cracked a joke with her husband and gave me a cup of steaming coffee. At least, I suppose it was coffee: at any rate it tasted about the best of anything I had ever drunk. Not long after that the sun arose. I began to grow nervous. My ship was losing the better part of a fair tide. Followed a weighty discussion with the "captain" of the barge, as a result of which I

THE COOK AND THE DEEP SEA YANKEE MATE, WHOSE BARK WAS WORSE THAN HIS BITE

THE SKIPPER WAS A GAUNT, RANGY, YOUNG MAN

THE OLD-FASHIONED WINDLASS AND SHORT FO'C'S'LE HEAD OF THE GENEVIEVE

plucked up courage to go aboard the schooner and rap loudly upon the cabin scuttle, which a previous investigation had taught me was almost directly above the Captain's bunk.

"Eh?—eh?—" sleepily. "Who the tarnation is that?"

"Almost eight bells, sir; you're losing a fair tide."

A long silence. Then: "Wind's fair, too, I s'pose, eh? All right, you go an' wake up the men—I'LL be a-gittin' up purty soon."

The wind! What a landsman I was, never to have thought of it! There was none—absolutely not a breath. Again I conferred with the bargee. He tapped down his pipeful, spat reflectively over the side and studied the clear morning sky with the dignified wisdom of a savant. Maybe he was one. Finally he "figured it would come westerly when the sun got up a bit."

That was all the encouragement I needed. But as I was starting over the rail again he laid a cautioning hand on my shoulder. There was a confiding look in his eye. "You want to know where the door is when you rouse out that mate on thet-air schooner, young feller," he said. "He's a mean one, that cuss is."

Apparently complications were coming thick and fast. Somehow, though, the proximity of land lent courage. Also, I figured that a wide-awake boy was more than a match for a sleepy mate—when it came to dodging. But more important than either of these considerations was the fact that I was acting under orders from the "old man" himself. Surely that was enough. Accordingly, I made my way somewhat gingerly to the forward door of the cabin which gave access to the main deck of the schooner.

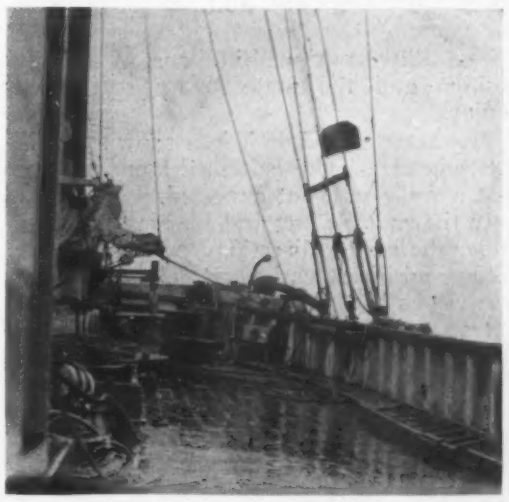
Inside the air reeked of warm humanity and stale tobacco. The boy was the first one to greet me. The day before he had been rather offish and suspicious: now he hailed me as a companion in toil. Together we woke his brother, the cook; and while I was considering the most advisable method of going about the next and most hazardous part of my task the cook suddenly and in a most unexpected manner took it off my shoulders. He was a tall, well-proportioned fellow and he had very red hair. Perhaps that had something to do with it. At any rate, he grabbed the still sleeping mate by one hind leg and yanked him half out of his bunk.

"Rouse out, you bum," he commented sweetly. "Don't you want no breakfast?"

The boy looked at me and winked. "We'd best be gettin' out an' rustle some firewood for the cook," he said. We went.

So passed the first encounter. If the fire-spitting mate attempted any comeback we did not hear it; but it was easy to see that Si (the boy) expected trouble later and it certainly did not seem likely that the mate's disposition would be improved to any noticeable degree by the manner of his awakening.

That cook was a wonder. For industry, good nature and thrift I have never seen his equal—especially for the last-named quality—either at sea or in the woods. He would be worth double pay in any lumber camp—provided the men he was feeding did not all die of hunger, that is. However, one cannot expect three "big" meals a day on a lumber schooner, and a Nova Scotian at that. But he had a way of making you feel just as good as if you had stowed away a rib roast: that was where his radiant good nature came in. Even the mate could not get mad at him, though he tried to at every meal.



THE DECK WAS A WET PLACE WHEN THE PUMPS WERE MANNED

In due course we had breakfast. It gave me a start to look at my watch and see that it was just the time that my family was having breakfast at home up on the hill—and the breeze had not come yet. So much for our early start. They—of the regular crew—were still sitting in the cabin discussing whether or not it would be worth while to work out into the harbor and anchor there to be "handier for a chanct." By nine o'clock this lying-around had become intolerable, yet the tobacco parliament was still in session aft. The bone of contention consisted in the fact that the skipper did not want to go to the expense of hiring a tow-boat and the mate said "he'd be teetotally d——d, yes, teetotally, sir," if he would lend his sanction (and incidentally his muscle) to hand-warping the schooner along half a mile of docks.

I was glad to see that they evidently did not consider us two boys equal to the task. Still something had to be done. I could not stomach existing a whole, long, hungry day right alongside Bush's Coal Yard with the gables of my father's house in sight up on the hill. Therefore I ventured to offer a solution in the form of the power boat of a man I knew who would tow us out for nothing "if I asked him." I was careful not to let it appear that there would be any other consideration than my simple request: if the Skipper thought I was paying for the service it might make him feel embarrassed (!).

This worked very nicely. I am not sure but that it actually saved a fight between the mate and the cook. At anyrate, it got us out into the harbor, which, though tame, was a more endurable place to be hung up than at a dock. Also, it contributed indirectly to my getting some little scrap of professional standing with the mate. It came about in this way: When Fred Crocker and I ran alongside the schooner in Fred's "party launch" the mate was standing by the cathead with a coiled line in his hand all set and ready for a cast.

GENEVIEVE WAS A FINE SAILER OFF THE WIND. LOOKING AFT FROM THE FLYING JIBBOOM

"Here, you!" he sung out, sending the line uncoiling through the air in my direction, "use that for a tow line, AN' PUT A BOWLINE ON TH' END—SAVVY?"

It was what I had planned to do, anyhow: so this roar did not confuse me. The summer before, while cruising, my brother had gone to some pains (and myself to some pain) to instruct me in the seamanlike art of *throwing* a bowline. It is a very nice little trick and I had learned it thoroughly—thanks to my brother's assiduity, not to mention other things.

Now, with the flourish of the artist who is sure of his technique, I caught the end of the line, held it a moment nonchalantly while leisurely expectorating, then threw the bowline deftly, dropped the bight over the stern bitts of the launch and made a flying leap for the schooner's chain bobstay up which I swarmed by way of the bowsprit shrouds to her "nose pole" and thence in to the eyes.

The mate eyed me a moment suspiciously. In flannel shirt, sweater and old pants I looked quite different, no doubt, from the young "dude" of the day before, at whom he had barely condescended to sneer.

"Ever been to sea?" he demanded.

"Yessir," I lied glibly.

"That's —— —— good; I can make you earn your salt, then. Haul in them lee fenders and look sharp, d'ye hear!"

"Very good, sir; —eh, excuse me, but which is the lee side? There is no wind yet."

The mate dropped what was in his hands and stood looking at me with chin stuck out and the most intently malevolent expression that I had ever seen on a man's face. Words seem to fail him. When they did come his speech was so faint that I feared he must be ill—that I had literally made him sick! "A sailor," he said slowly, "a sailor generally hauls in them on the side away from the dock first. An' he DON'T ASK QUESTIONS." I wasn't quite sure whether the episode of the bowline had turned out to my advantage or not.

In time we got out to the center of the harbor. Then, while the mate, aided (perhaps) by Si and me, was overhauling a few fathoms of chain cable preparatory to coming to an anchor a nice, fresh, little northeast breeze suddenly cut in from over Todd's Point.

That, to my mind, was a signal for making sail, but the Skipper only chewed on his pipe stem and said nothing. Presently the anchor was let go and much rusty chain rattled through the hawse pipe. Had I known what backbreaking labor it would mean getting that on board again I could not so blithely have seen it go. But I had won my first manœuvre and was serenely happy.

When Fred had waved me his farewell and was chugging back shorewards the Skipper ambled slowly forward sniffing the breeze, shoulders hunched up and hands thrust deep into trousers pockets.

"Purty well ahead," he observed.

"Yes-sir"; this from the mate, "too durn much ahead to be any use, I say! She'd just be goin' sidewise like an old crab out there in this. Wouldn't get us nowhere."

"Oh, she ain't such a bad little sailer——"

"There are plenty of harbors all the way along on both sides of the Sound," I cut in eagerly.

Both men regarded me with the sort of abstract interest which a scientist might accord to a new beetle.

"D'yew know these waters?" asked the Skipper at length.

"Yessir, I can take you in anywhere if you get out there and find she won't make her course."

The Skipper grinned in a sort of a sickly fashion and the mate swore softly but copiously.

"Reckon yew c'd do it in a snow squall?" the Skipper asked. I deemed from his tone that a reply was not expected.

In the end, the boy and I were turned to, under the mate's direction, to clean out the hold—and direct us he certainly did! That was not so bad, though, for he worked like a trooper himself. There was the usual collection of odds and ends of junk from the last freight in her otherwise empty hold. Most of this, bits of sticks and the like, was frozen into the cemented snow and ice which had accumulated while the vessel was lying for a month or more at Bush's dock. We got after it with spades and a pickaxe (of all things to find on a ship!), heaped it into little piles and then lighted it up to deck in a bucket. By the time we got through my feet were wet and half frozen and my hands stiff and bleeding. It did not seem quite the sort of work to put a sailor to, but I observed that Si took it all as part of the day's work, so held my peace—which was well for me! After all, there were, of course, some unpleasant features even to being a sailor, but all that would be quickly forgotten once we had gotten under way and began to list to a fresh breeze! By the time we had her cleaned out below and the decks sluiced down and otherwise made shipshape and Bristol fashion, dinner was ready—a genuine meal this time. Si and I did it ample justice, rather to the disgust of the saturnine mate, who averred that a boy was "not half a man on two men's grub." A concise statement of fact, to be sure.

Gradually it grew very dark in the "house," and the next time the cook made his entrance he was covered from head to foot with big, flocky snow flakes.

"Snowin' right smart an' breezin' some, too," he informed us.

No one seemed much surprised: the mate merely grunted, but the captain's stock soared way above par in my admiring sight. Candidly, I was forced to admit to myself that after all he probably knew his business better than I, and I was truly thankful not to be piloting the good ship Genevieve up into Oyster Bay at that moment. Apparently he had smelt the snow coming.

Along towards the middle of the afternoon the wind got around in to the north-

THE QUARTERDECK OF GENEVIEVE AND ENTRANCE TO CABIN

west and the snow stopped with surprising abruptness, leaving a welcome aftermath in the form of a beautiful, sunny spring evening with a fair wind. Now that he had what he wanted, the Skipper was by no means slow to take advantage of it. Setting the big mainsail was a heartbreaker, and breaking out the hook another; but just as the sun sank behind the white-clad western hills we filled away at last and put her on a course for the Race.

That night all the stars in heaven were out. It was just comfortably cool and a gentle land breeze wafted us peacefully eastward with eased sheets and a rapping of ripples at the old schooner's bow. The little swell still coming in from the eastward lent enough motion to complete the illusion of being at sea without being uncomfortable to a very full stomach. It was wonderful: I would gladly have stayed on deck the whole night, but at eight bells the Skipper shooed me below with the injunction to get what rest I could before midnight; and to tell the truth, there was a separate and distinct ache in every muscle that I had. . . .

"Rouse out, there, matey: it's our watch," a gruff voice was saying—to the accompaniment of a vigorous shake.

I fetched up all standing in the middle of the cabin floor and caught the mess table to steady myself by, for the schooner was well listed and seemed to be traveling at a famous speed. The faint glim of a low-turned lamp revealed the mate in the act of buttoning a ragged ulster under his chin.

"It's colder than the Straits of Wan de Fusha up there," he told me, in the nearest approach to a kindly tone that I had yet heard him employ. "You want to put on all the duds you've got. We have four hours of it on end, you know."

I followed his advice, and then followed him up to the poop—being careful to ascend that sacred eminence by the lee steps. The Skipper mumbled a course, said something about calling him if it freshened any, and ducked precipitately into his cabin.

When he was gone the mate spat contemptuously. "That is a ——— of a way to start a man on his watch!" he observed, with obvious disgust.

"Do you know why he didn't tell me what some of these bally lights all around us are?" he asked when I did not venture any rejoinder.

Thus directly questioned I confessed ignorance on the point, though it *had* seemed rather peculiar considering that the mate was a stranger to the Sound.

"It's because he don't know them himself; that's the answer. There ain't no chart at all on this ———, bloody packet but a general coast sheet that shows Long Island Sound about the size of a peanut. Say, no slush now, do *you* know these lights?"

I studied them carefully and named half a dozen, beginning with the flashing white on Stratford Shoals astern and ending up with Horton's Point just visible on our starboard bow.

"That sounds all right," admitted the mate, "but how in h—— do *you* come to know so much about it; you ain't no sailor?"

It dawned upon me that the "bad" mate's bluster was mostly for the gallery. Now that we two were alone he was acting quite human.

"Let me take that wheel and I'll show you if I'm a sailor," I replied tartly enough. He looked at me sharply, but stepped aside and gave me the wheel and the course, purposely throwing the vessel's head about a point off at the same time. I brought her gently back to the proper heading and had held her so for perhaps five minutes when at last the light of comprehension broke upon him.

"Oh, I savvy," he said: "you're one of these yachters. Well, that's better than nothing. Take her along, I ain't used to playing quartermaster."

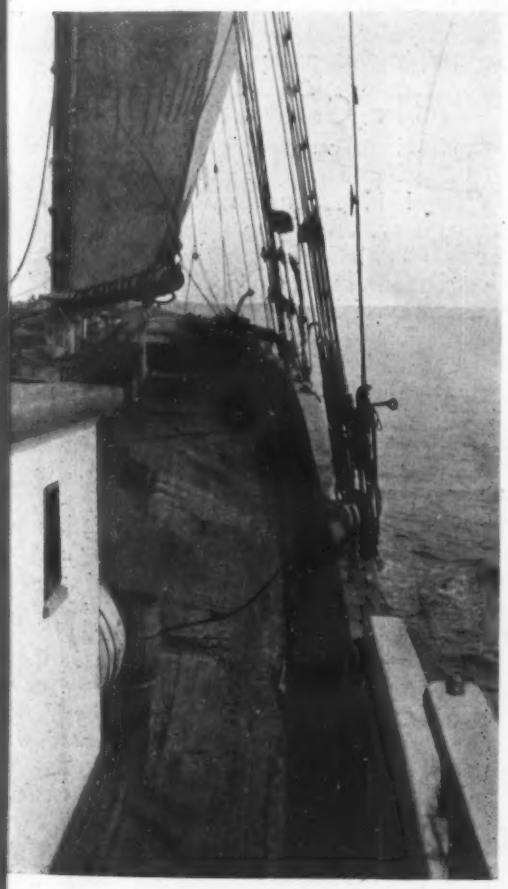
This was a leading remark, and, the ice being broken, the mate loosened up and began to tell me what was nothing other than a partial biography—typical and pitiful. Only five years before he had been a strong man and a capable officer in deep-water ships. He made a voyage to the west coast of Africa in a fine brig. He went out as second mate, but on the homeward-bound passage the captain died of fever and the first mate and some of the crew were swept overboard by a boarding sea and lost, so he brought the vessel home as acting commander. The owners were so much pleased at his conduct that they promised him an independent command in another ship as soon as he should get his master's certificate. Then, suddenly, he took to drink. He did not tell me the reason for this, but from other remarks I strongly suspected that the loss of his wife had something to do with it. Finally, he drew a stained envelope from some inside pocket and thrust it into my hands. "Just look at that!" he said shortly. "A man ain't all bad that can have kids like that, is he? God bless them *and damn me* for ever bringing them into such a world as this ———!" And he trailed off into sacrilege the more horrible for the contrast it presented.

When I handed the photograph reverently back I noticed that the man was shivering violently from head to foot. "You're cold," I said. "Go below, man, and get warmed up. I can take her along alone for a while!"

"No, it ain't that," he answered in a shaken voice. Then pulling himself sharply together: "Look to them sidelights," he commanded curtly, "and see if they're burnin' bright."

Crippled, emaciated and debauched though he might be, the pride of craft was with him yet. Poor devil, I felt sorry for him!

So do we learn to know our fellow-man—in the still, dark watches of the night.



GENEVIEVE CLOSE HAULED, LOOKING FORWARD

THE QUARTERDECK AND WAKE FROM THE MAINMAST HEAD

During the latter half of our watch the wind petered out and what little was left veered around to the northeast, so that when the Skipper came on at four in the morning we were close-hauled on the port tack and had progressed little beyond Falkner's Island.

Followed, so far as I was concerned, a few hours of deep oblivion, broken at intervals by the thrashing of booms and slatting of sails as the vessel, almost becalmed, labored in the swell of passing steamers. Then the mate woke me up. "Eight bells already?" I groaned.

"No," he growled, "Skipper's lost. Wants to see if you know where we are." It proved to be the truth. There had been a light fog for the last hour, and now with the dawn a fresh, chill breeze from the east was driving in thicker mists from the sea with a promise of snow behind it. Already the watch on deck had found it necessary to clew up topsails and the schooner, oversailed and undermanned, was tearing blindly in the direction of the Long Island shore.

I questioned the Skipper and made out that the last light which he had been able to see was what could be no other than Plum Gut. It had borne broad off his starboard bow about an hour previously and he thought that we had come at least five miles further east since then, even allowing for the tide, which had set in strong flood against us at the same time.

"Then New London is easy money on the other tack," I said. "You had better go about right off before we bump Gull Island, and stand in for the Connecticut shore."

Having asked my advice, he followed it without question, in which I found much to admire, considering how slender a reed it must have seemed. There was no halfway business about the Skipper.

On the starboard tack the old schooner pointed well and seemed to be making famous work to windward. Presently we heard the fog whistle on the Bartlett's Reef lightship, and I told the Skipper that we must weather that before we could swing off for the entrance to New London harbor. It was well off our lee bow, so the task of passing to windward of it appeared simple enough. But a curious thing happened: we were coming up with the lightship fast —every successive blast of its fog signal was appreciably louder than the one before —yet *its position was fast changing from the lee bow to the weather one!*" To be sure, the tide was setting strongly that way, but at our speed and the angle at which we were headed we should at least be holding our own over the tide.

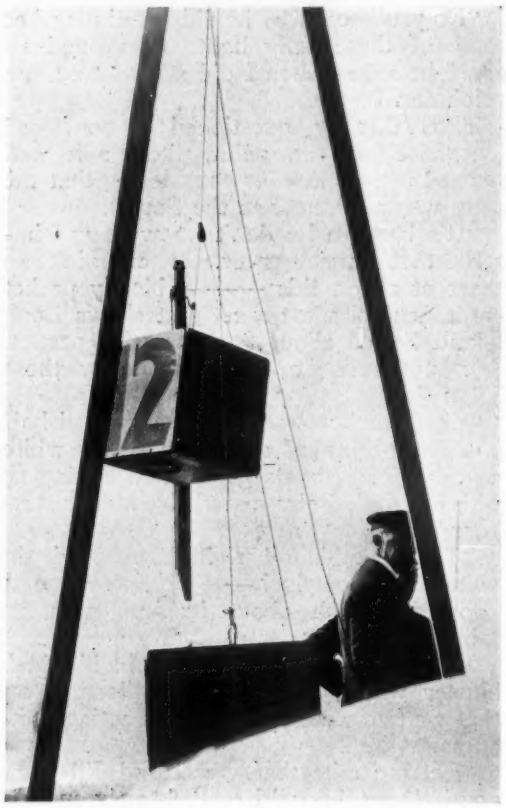
Greatly puzzled, I glanced astern at the schooner's wake—and saw it trailing up to windward at an angle of 45 degrees: the old crate was making leeway like a Chinese junk! Suddenly the lightship itself showed for a moment through the swirling mist a cable length dead to windward.

(*Continued on page* 85)

For Simplifying Racing Starts

IN order to simplify as much as possible the conditions at the start of a race, which in the case of a large regatta are always more or less confusing, the Regatta Committee of the New Rochelle Yacht Club has worked out a new system of starting signals that does away with the old multi-colored balls or umbrellas which are generally used, or the complicated series of numerals sometimes employed.

Under this new system each class is designated by a number; if there are fifteen classes the numbers of the classes run from 1 to 15. On the instruction circular these



NEW STARTING SIGNALS USED BY THE NEW ROCHELLE Y. C. TO SIMPLIFY CONDITIONS AT THE START OF A RACE

classes are grouped numerically, the designated course for each class being shown in the circular. Corresponding numbers are painted on a cubical block, sided about two feet, with the number painted on all four sides. This cube is used for a starting signal and is hoisted with the starting gun, the number on the cube corresponding with the number of the class that is to start. These signals are hoisted in numerical order, so that a man may know at any time just what class is starting or has started, and how long it will be before his class starts. For instance, a man in class 10, seeing the signal 8 hoisted on the committee boat, would know that he would be the second class to start thereafter. There is thus no need for constant reference to the instruction sheet, a skipper merely keeping track of his own class number and the number upon the committee boat. The numbers are large enough to be read at a distance of about half a mile. Mr. George C. Malloy, the chairman of the committee, and Messrs. H. W. Patterson and D. Ed. Dealy deserve credit for devising a system that will let a skipper concentrate his attention on getting his boat to the line in a good position without being distracted by any doubt about the signals.

For a Time Limit on Races

AN English yachting authority makes the suggestion that, in open-class racing, as well as in handicap and restricted classes, competing yachts in a race should finish within a certain time of the winner to have their time recorded and be entitled to any reward. He claims that it would often simplify matters considerably if it were made a rule that competing vessels should complete the course in the same time as that of the first vessel in, plus a marginal allowance of x per cent. Under certain weather conditions and in waters where a strong tide runs the first boat may come home just before a turn of tide; the rest remain behind and the race officials have a long and weary wait until the next boat gets her gun. In practice, once it is known that the prizes advertised for a particular race have been won, a race committee very often will not wait until every boat has finished. But still, on the question of principle, the first boat home should set the standard of performance for a particular race, and other vessels which fail to come within reasonable distance of the fastest vessel should not be worthy of reward in that particular match.

The Gold Cup Entries

THE following entries for the Gold Challenge Cup Races, which will be held August 14 to 18 at Manhasset Bay, under the management of the Long Island Sound Motor Boat Association, have been received: Ankle Deep Too, Count C. N. Mankowski, representing the Lake George Regatta Association, challenger; Baby Speed Demon II, Mrs. J. Stuart Blackton, Motor Boat Club of America, defender; Baby Reliance VI, Commodore J. Stuart Blackton, Atlantic Yacht Club; Little Joker III, H. S. Ford, Tappan Zee Yacht Club; Peter Pan VII, James Simpson, Columbia Yacht Club, and Hawk Eye, owned by a Lake George syndicate. While at this writing these are the only definite entries, it is expected that other starters will be Commodore J. A. Pugh's new 20-footer Disturber; Miss Detroit, owned by a Detroit syndicate; a new Tech, Jr., and a new boat owned by T. F. Cheseborough, which has just been launched.

On her first try-out Ankle Deep met with an accident and sank, but it is hoped that she can be raised and repaired in time for the event. The races will be started at 3 P. M. each day. Fast time should be made

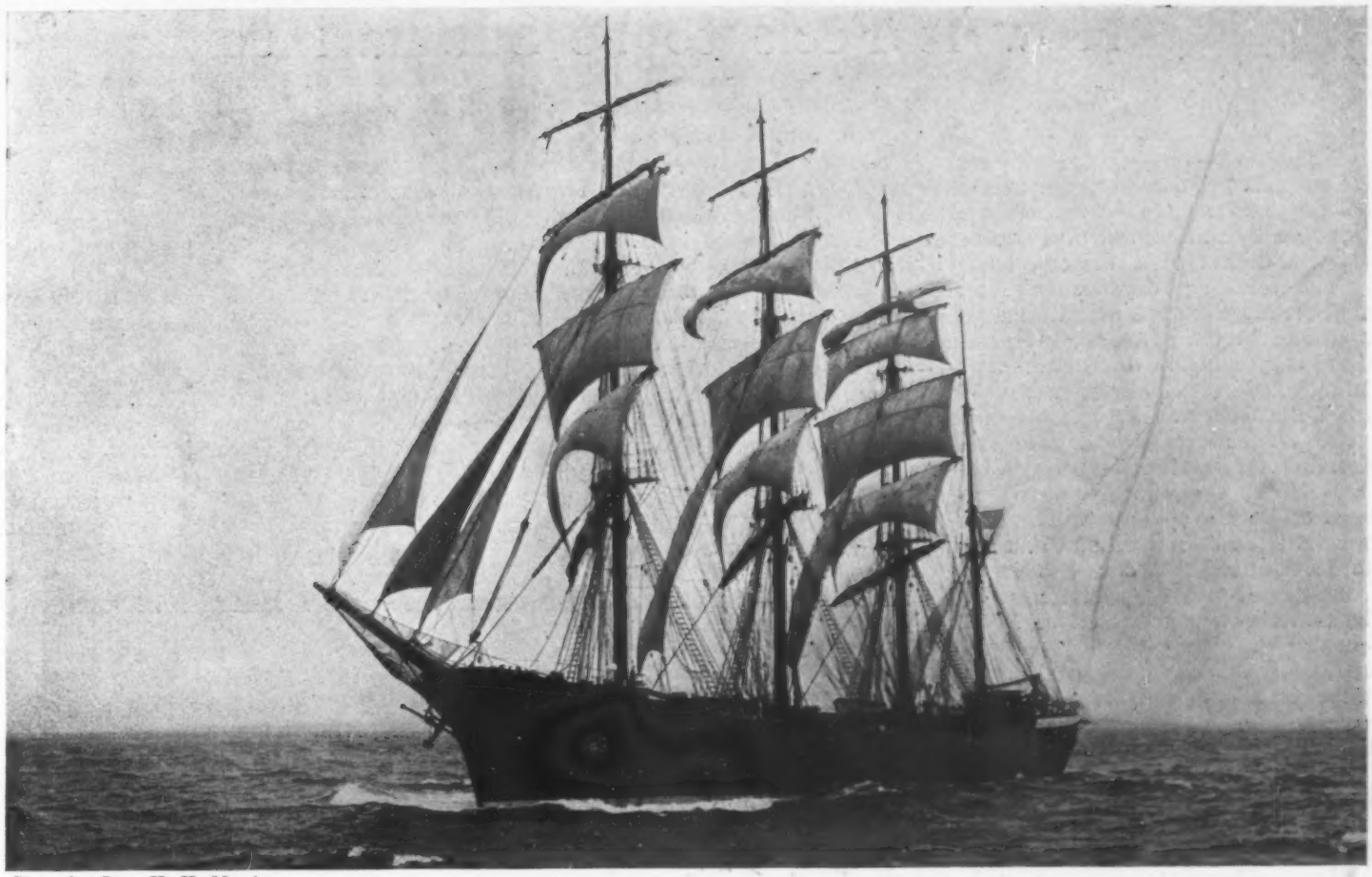


Photo by Capt. H. H. Morrison.

"YOU LAUGH AT THE WATCH AS YOU TURN THEM OUT, FOR THE KITES THEY'LL HAVE TO STOW"

The Watch Below

When I'm pacing the deck on a stormy night,
With a stiff northeaster blowing,
And the bark is snugged to her topsails light,
An' the weather's started snowing,
I can bless the watch as it comes on deck,
Up into the wind and the snow—
Oh, we would sooner they have the wet,
While we leave for our watch below.

Yo Ho! Our watch below—
When the stormy winds do blow;
Oh, we can bless the watch on deck,
As we lay in our watch below.

When you've stood your watch on a dirty night,
With signs of a squall or a blow,
You don't care a jot when your pipe's alight,
You'll soon be asleep below.
You laugh at the watch as you turn them out,
For the kites they'll have to stow,
And you smile to yourself as ye hear them shout—
When you're in your watch below.

You think of them up in the cold and the wet,
And aloft, the sails to stow,
You think of them hauling the ropes in a sweat,
As the wind begins to blow.

Then you turn and sleep a dreamless sleep,
While the seas above you go,
Sousing the watch with a hearty sweep,
While you're in your watch below.

When I'm snug in my bunk and blankets warm,
I can hear them stamp and throw
The halyards on the deck in the storm,
When I'm in my watch below.
I can hear them shout to the heave and haul
A lusty chantey, oh——
So I turn and snooze until the call,
"Turn out the watch below!"

—FREDERICK WILLIAM WALLACE.

Relative Efficiency of Air and Marine Propellers

AT a recent meeting of the Institute of Naval Architecture in London, Mr. F. W. Lancaster, the noted English authority on automobile and flying machines, mentioned some very interesting facts concerning air and marine propellers that are not generally known. There was, he said, no doubt but that the air propeller had a considerably higher efficiency than the marine propeller. The first reason for this was that in an air propeller one could take advantage of the aspect ratio. Almost any material would do for the construction of an air propeller; as would be known, they were usually formed of wood. Material of this kind, however, would not stand up in water; metal had to be used, and at the same time one had to make the blades thicker, and use a bigger aspect ratio. The efficiency of an air propeller might be 85 per cent—80 per cent was easily reached—but he thought 75 per cent was about the best that could be got with a marine propeller. The second reason for the greater efficiency of the air propeller was that in air one had no cavitation difficulty. Cavitation began when there was too much vacuum behind the blades, and to prevent it in marine propellers it was necessary to employ a good deal of blade surface. This cut down the efficiency. The third reason was that in marine propellers you could not get the proper diameter for best efficiency. In aeroplane work the propeller may be skimped a little to allow ground clearance, but not much, and the diameter of, say, 10 feet 6 inches, which was used, was about right. In marine work, however, matters were very different. The best propeller for a given case—what he called the optimum—might have to be 25 feet in diameter, and yet in actual practice would have to be cut down to 8 feet or 10 feet.

Breaking Spark Plugs

When the insulation on a spark plug becomes broken the plug is generally useless and must be replaced. A common cause of the breaking of this insulation is the fact that spark plugs are screwed into the cylinders too tightly. They must be screwed in hard enough to prevent leakage, but they should not be set up so hard as to break the insulation. Also, when setting up nuts with the wrench be careful not to strip the threads on either bolt or nut, as this causes considerable inconvenience.

How it Feels to be Submarined

By an Officer of One of the Torpedoed English Cargo Steamers. One of the First Coherent Accounts of What Takes Place from the Moment the Submarine is Sighted Until the Ship Goes Down

I AM an officer in the Merchant Service holding a first mate's certificate, and was recently third officer of a steamer which left the port of Liverpool, bound south. The following day we were torpedoed at the mouth of the Bristol Channel.

It was late in the afternoon when we passed the Bar Lightship, and we were congratulating ourselves that we were well clear of all submarine attacks. We little knew that another vessel had been sunk three hours before a similar disaster overtook us. Up to this time all hands had been kept on deck keeping a vigilant look-out for submarines. In addition to the men on the forecastle head, one was in the crow's nest, and two were stationed aft. Our boats were swung out all ready for launching.

Shortly after mid-day I came on deck to relieve the second officer for lunch; the captain was, at that time, on the bridge. It was a lovely, clear day and the horizon was plain all around, the sea being quite calm. The second officer remarked to me as he left the bridge that we were fortunate in getting clear of the beggars before leaving the Irish coast, but his remark did not make me relax my vigilance.

About fifteen minutes after the second officer left me I was standing on the port side of the bridge looking at the water, when suddenly I saw what I first took to be a fish coming to the surface from a depth of 3 to 4 fathoms. Then like a flash I noticed that the disturbance of the water increased and I could see the shimmering body of a torpedo coming, as it seemed, from the depths of the sea at an angle of some 45 degrees. I rushed across the bridge and dashed at the engine room telegraph, ringing it to stop. At the same moment a terrific explosion rent the air and the force of it swept up the water like a huge cataract and sent above the height of the funnel a shower which descended upon me, drenching me to the skin. The bridge chart-table and other portable fittings were completely wrecked. By this time I could see bales of sacking which formed part of our cargo floating on the surface of the water, but there were no signs of the submarine or its periscope.

All hands were quickly mustered, the ship slowly sinking by the head. There was no panic. Every man proceeded to his proper station, the lifeboats were lowered, and the forward part of the ship sank deeper whilst the stern rose proportionately. At the time the boats were lowered the vessel had a heavy incline forward. In seven minutes every man was clear of the ship and we were able to save absolutely nothing but the clothes in which we stood. Most of us were drenched through by the sea which followed the explosion as it came on board, and we looked fairly miserable objects. It was by no means a warm day, but, in the excitement, we did not feel the cold at all until we had been in the boats for some time. We pulled away from the ship and it was then, for the first time, we sighted the periscope of the enemy, who had not yet shown his hull.

They were evidently watching us in the boats. They also observed—as we did—that whilst the ship sank down to a level with her hawse pipes she did not go any deeper. The blades of the propeller were just showing above the water.

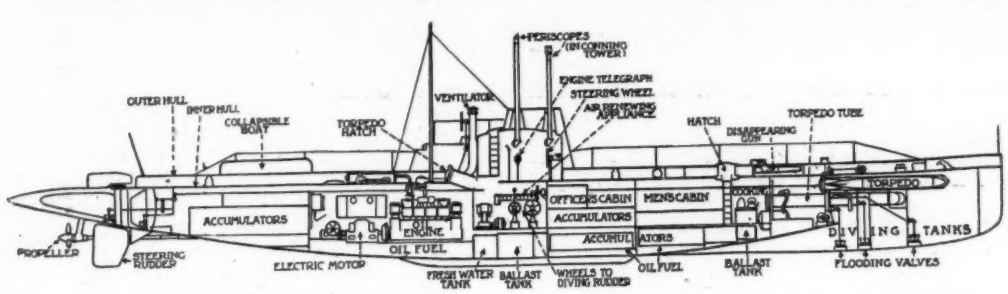
After watching our old ship for a little while we agreed that we would hang on to see if we could save the ship by bringing her back to port. For a few moments the periscope disappeared and we thought that the submarine had gone for good. Unfortunately, this did not prove to be the case. We had not progressed more than a couple of hundred yards towards the ship, with the intention of boarding her again, when the submarine rose to the surface between ourselves and the vessel. Her conning tower cover quickly opened, and an officer shouted in English to us to "clear out."

Four or five seconds later another torpedo was fired at our ship, which hit her in the stern and completely shattered the after part of the vessel. A terrific explosion followed the discharge of the torpedo, and we thought that our boats were shaking to pieces, so greatly did they oscillate. We then saw that our ship was doomed, for within a few minutes she began to settle more deeply in the water, and before we could row away from the scene she was out of sight.

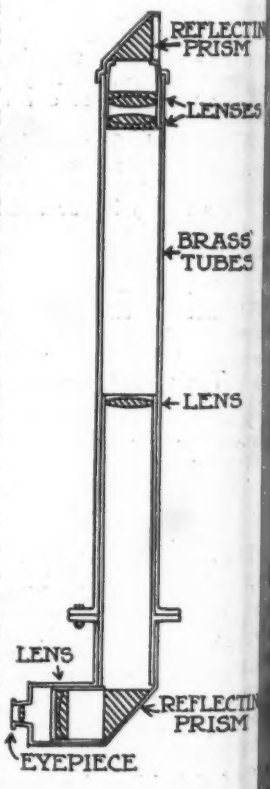
The submarine which attacked us was a huge vessel and carried a heavily mounted gun aft. This gun was in no way covered up, for before the periscope of the submarine came to the surface it showed itself in position. The enemy's craft was a long thin vessel of considerable length. In fact it looked as large as our own ship when the latter was nearly submerged. The officer in command of the submarine evidently had other work to do, for he did not stay to converse with us or assist us in any way. After he saw that his last torpedo had demolished the ship he quickly closed his conning tower, and with a considerable roaring noise he submerged and disappeared.

We rowed away from the scene, and after being in the boats for some twelve hours, we finally picked up a friendly shelter in the shape of a light vessel, where we remained until the following day, when we were taken off by a passing steamer.

There is one curious feature about the attack on our ship, and that is the absence of the submarine's periscope. None of the look-out men saw it, and, from the direction in which the torpedo came, I should imagine that the submarine was fitted with some kind of plate glass look-out in the conning tower where she could see the object of her prey through the water. It would have been impossible to have fired at such close range and become submerged without warning us by the noise which, I understand, is caused through the water entering the tanks and the air escaping. As to her armament, I am ready to state that the gun she carried was much larger than a three-pounder, as I have seen three-pounders, six-pounders, twelve-pounders and 4.7 guns, and it looked to me more like one of the latter type than one of smaller calibre. At any rate, it was a good-sized gun. J. A. T.



PLAN OF A MODERN SUBMARINE. IT WILL BE SEEN THAT THERE IS AN INNER AND AN OUTER HULL. THE LATTER ENCLOSE DIVING AND BALLAST TANKS AND THE INNER HULL, WHICH IN TURN CONTAINS PROPELLING MACHINERY, TORPEDOES AND CABINS FOR THE CREW



CROSS SECTION OF PERISCOPE OF SUBMARINE

The Chicago Yacht Club's Tri-State Race

THE Chicago Yacht Club's annual three-cornered race, which took the boats to a port in three different States on Lake Michigan, was one of the most successful, from a racing point of view, that has been held for some time. The honors fell to the new Class "R" sloop Banshee, owned and sailed by Otto Schoenwerk, in the sloop class; to Neoga, owned by "Bob" Benedict, and to Natant, C. H. Morgan, in the yawl and schooner classes. The course of the three days' race was from Chicago to Michigan City, Ind., on the first day; from there to St. Joe, Mich., on the second day; and back to Chicago for the third day. An eighteen-mile norther was sweeping down the lake for the first day's race which sent the yachts over the 37-mile course in fast time, the first boat to finish, the Valiant, sailed by Fred Price, taking only 4 hours, 6 minutes and 20 seconds for the distance. In the scramble for the start in a fresh breeze "Tommy" Atkin and Commodore Clinch brought their boats Nomad and Arcadia to the line on the run, with the other boats right on their heels. When corrected times were figured Banshee, the new Class "R" boat, designed by John Alden, of Boston, beat the Valiant by 4 minutes and 8 seconds. Another "R" boat in the sloop class was the Maia, owned by Samuel Dauchy. This boat was formerly the Sally XII, built last year and sailed at Marblehead. She finished third on corrected time, but will probably give a better account of herself later in the season. Neoga won the race in the yawl class and Natant in the schooner class.

START OF THE ANNUAL TRI-STATE RACE TO MICHIGAN CITY AND ST. JOE. LEFT TO RIGHT—ARCADIA, CAPSICUM, MAIA, BANSHEE (A NEW CLASS "R" BOAT) AND NATANT

Second's Day's Race

The boats left Michigan City for St. Joe in a moderate beam wind, the larger sloops and the schooners and yawls setting a straight course down the lake, while the Class "R" and "Q" boats fought it out along the shore, hunting the stray breezes that came off the sand cliffs. The latter "hope" proved correct, for the wind dropped out on the lake and the boats inshore took the lead. At 1:30 P.M. a moderate northeaster struck in, and Valiant romped in an easy winner by 28 minutes; Banshee, second, with Capsicum, of Class "Q," in third place. The other boats straggled in towards dark, with the good old schooner Nomad a good last at 9:30 P.M.

Third Day's Race

The run from St. Joe back to Chicago was started Sunday in a fresh easterly, some of the boats carrying reefs, though most of them hung ballooners aloft and laid a straight course for Chicago. Banshee, under working canvas, worked out to weather, but the wind kept backing, so that sheets were soon eased and at noon all were carrying spinnakers. The wind increased and the latter part of the run was made dead before it. Valiant was the first boat to finish, as usual, but couldn't save her time on Banshee, the latter winning by 22 minutes. The final summary for the three days' racing resulted as already told.

JOSEPHINE, A FINE OLD HOOKER, THAT GAVE A GOOD ACCOUNT OF HERSELF

Among the older boats the sloop Josephine, owned by Malcolm Vail, while not having a look-in against the new boats, sailed some very creditable races.

Valiant Wins the Lipton Trophy

FRED A. PRICE, head of the syndicate which built the Class "P" sloop Valiant, sailed that boat to victory in the annual race for the Lipton trophy on June 12, and the handsome cup now becomes his permanent possession. The deed of gift called for its being won by the same owner three times and Mr. Price took a leg with the Michicago in 1913 and the Valiant in 1914. The race this year was sailed over a 15-mile triangular course, the first leg a beat to windward and the other two broad reaches. The Valiant made the course in 2:14:26, as against 2:26:01 for the Banshee, which was second. Valiant is counted upon to meet the Josephine in the match races for the East-West Cup, starting Sept. 4.

Cape Cod Canal Tolls

THE Boston, Cape Cod & New York Canal Company announce a reduction of toll rates for the passage through the Cape Cod Canal. The following are the rates for vessels less than 16 gross tons, based on overall length, not engaged in commercial trade:

		10 or More Vessels	
	Per single passage	Per single passage	Per round trip
Minimum less than 30 feet..	$5.00	$4.00	$8.00
30 feet to 34 feet	6.00	5.00	10.00
35 feet to 39 feet	8.00	6.00	12.00
40 feet to 44 feet.....	10.00	7.00	14.00
45 feet to 49 feet.....	12.00	8.00	16.00
50 feet to 54 feet.....	14.00	9.00	18.00
55 feet to 59 feet.....	16.00	10.00	20.00
60 feet to 64 feet.....	18.00	12.00	24.00
65 feet and over.....	20.00	14.00	28.00

Ornament in Yacht Design

How the Visual Sense Is Affected by Custom and the Conventional. Useless Decoration Must Make Way for Efficiency. What of the Old May Be Retained.

[The following interesting remarks on the value of ornament and its conflict with originality is by one of the editorial writers of *Yachting Monthly,* London, and has particular point in this age of evolution in power craft design.—Ed.]

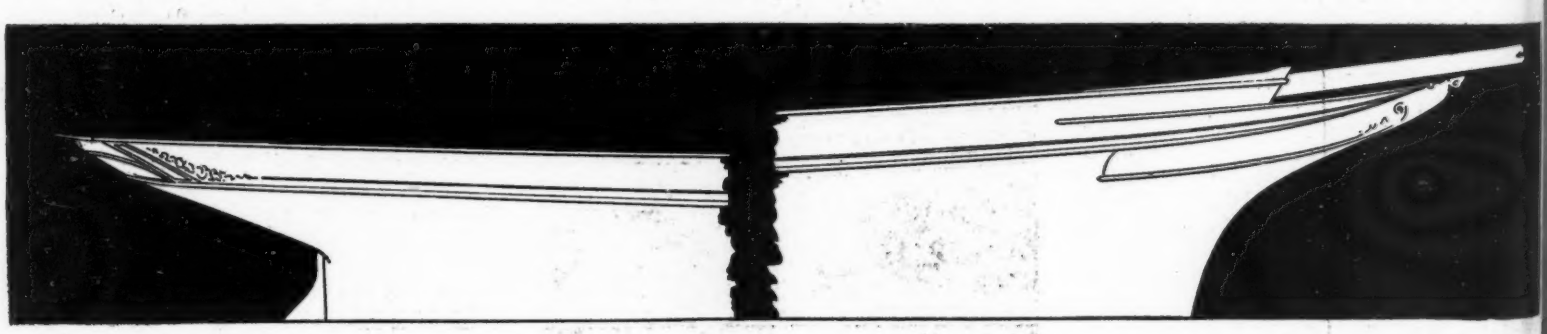
ORNAMENT (in yacht design as elsewhere) is certainly a sacrifice to the visual sense, and, granting that much, we must weigh its claims before yielding to its demands. Gothic architects did not leave an ornament on their arches which detracted from their value. Useless it might be, but not detrimental to efficiency. Thus their ornament was justified; but it is well to bear this restriction in mind, for not infrequently we find structures which appear to have been designed to carry and display ornament rather than preserve their more rational relationship.

In naval architecture we have many glaring instances of unreasonable pandering to the visual sense. Although we cannot now remember the outcry of esthetics on the introduction of the steam engine and its unsightly smokestack, one may read of it. The case of the Royal Yacht Squadron *v.* Assheton-Smith is historical, and the club barred from membership the owners of such ugly craft. Yet now we miss the funnel in the large motor yacht. Some designers have been loth to discard it, useless though it may be, and the funnel may remain with us for many years to come. In short, a radical departure from custom taxes our mental masticating powers, and so we hang on to what we term tradition. Thus in matters of detail we have knight-heads, trail-boards, clipper stems, long counters, and a host of other features which are nothing more or less than sops to the visual sense. None should remain unless it can be proved that its retention does not detract from efficiency.

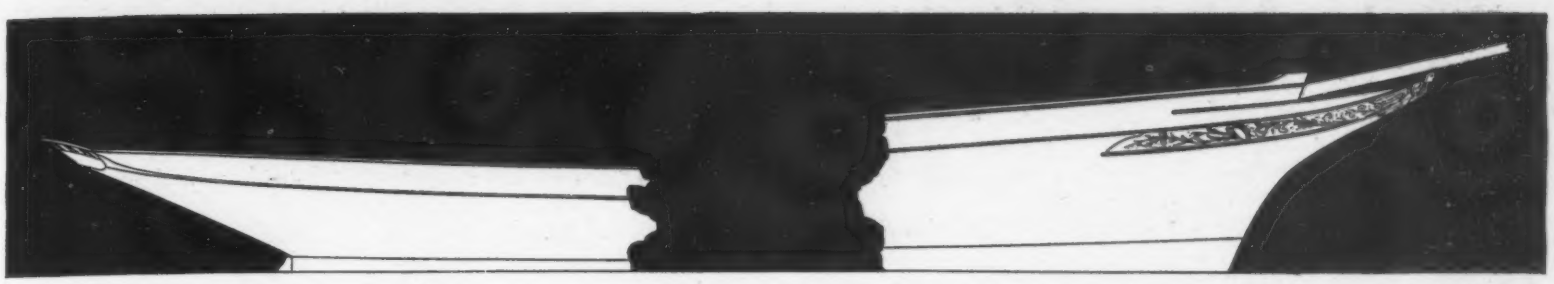
Consider the question of overhanging bows and sterns. When a naval architect has approached, say, a steam yacht from the mercantile marine or from the sailing yacht school of design, we have two forms naturally produced by the respective influences. Mr. St. Clare Byrne was a builder of large ships before he turned his attention to yachts, and in consequence we find his steam yacht ends both high and short, but withal wonderfully graceful and pleasing. He gave as his reason a logical desire to keep both ends beyond the reach of danger of big seas. Bearing that in mind, one may recognize his work wherever met with. The late Mr. Geo. L. Watson, N.A., on the other hand, although shipyard-trained, only designed steam yachts after a long and successful practice in sailing craft. Thus he gave us those long, graceful ends which we know so well, and of which the firm's principal, Mr. J. R. Barnett, is so admirable an exponent. Both schools sought to develop the types which they had made excellent in other spheres. Occasionally we have a naval architect of other experience venturing to produce a yacht. He is seldom successful. The late Sir William White designed the Albion, but none sang her praises as far as good looks were concerned. Other instances might be quoted, and probably the German Emperor was cognizant of some of them when he decided that the new Hohenzollern's design should *not* be made in Germany.

While due respect is owing to the esthetic feeling of the public, efficiency must not be sacrificed. Naval architects need only look at our womenfolk to realize that the visual sense may be quickly reconciled even to irrational change, so they may appreciate the wisdom of the venturing on such alterations as provide greater comfort and economy. Here it is instructive to note the work of Mr. C. E. Nicholson as far as steam and power yachts are concerned, during recent years. Passing the earlier designs, which bore unmistakable evidence of sailing yacht influence, we come to Sagitta, a type with Lysistrata as precedent. Sagitta, a 700-tonner, now doing good war service on the East Coast in charge of an amateur crew of sailing men, had a fairly long counter and straight stem. Frankly, I never liked her or her prototype, and I cannot see that the unbalanced ends are justified, or the departure from tradition warranted. The visual or esthetic sense was offended without reason. In Miranda, 942 tons, we have a reversion to symmetry. In her our visual sense wa smoothed; but Miranda was only beautiful as we counted beauty from habit. Sagitt was a half-step in rational evolution, whil Miranda represented a retrograde move ment. If in the former the docking of th overhanging stem was justified, the reten tion of the long counter could not be de fended. In the case of Miranda the sten was replaced, and the esthetic *status qu* restored. Now Ara, the large twin-scre motor yacht building at Southampton, is th logical successor to Sagitta. She has neithe overhanging stem nor counter, and consti tutes therefore a step in the developmen of the design of steam yachts. (In discuss ing these boats, however, I must not forge the owner's point of view. I do not kno his wishes in the case of each design. Th illogical Miranda may have been the resul of her owner's influence or explicit desire. Ara has a battleship stern and a straigh stem; but Pioneer, Mr. Paris Singer's 50 ton motor yacht, retains the counter witho the stem. Being a motor yacht, she ha no funnel, and consequently she shocks th visual sense still more than Sagitta. Al though completed sooner, she was designe before Ara, and she may not therefore b counted as a retrograde step in the cours of her designer's career.

If we consider a steam yacht accordin to her overall dimensions, those being th dimensions appealing to the eye, the battle ship stern and straight stem are justifie for they make for greater efficiency withi the given limits. The stern provides mor accommodation and easier after body line and balances the snubbed stem. The clip per stem owes its origin to the necessity fo a long bowsprit on which to carry sever headsails. When headsails and bowspri cease to be necessary, this particular for of stem should disappear with the appen ages which brought it into existence. Y for many years it has been retained as a obvious sacrifice of efficiency to the visua sense. Similarly, the long, low, overhang ing counter which gave increased stabilit



TYPICAL STEAM YACHT ENDS DESIGNED BY ST. CLARE BYRNE. GRACEFUL, SEAWORTHY AND PLEASING TO THE EYE, BUT GIVING WAY TO THE GREATER EFFICIENCY WITHIN GIVEN LIMITS OF THE STRAIGHT STEM AND BATTLESHIP STERN



MESSRS. G. L. WATSON & CO. ARE NOTED FOR THE GRACE OF THEIR STEAM YACHT ENDS, THE RESULT OF LONG PRACTICE IN SAILING YACHT DESIGN

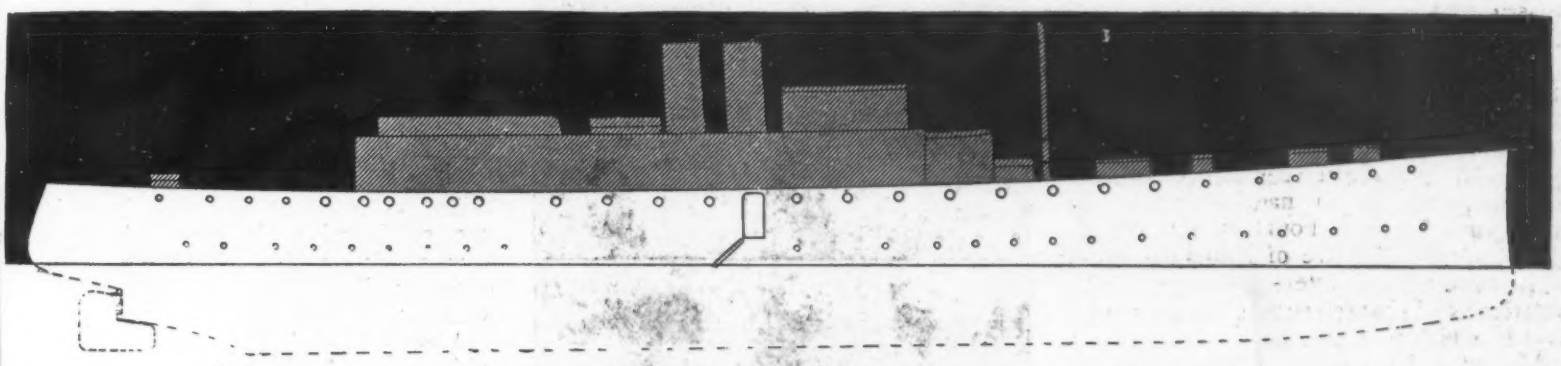
and length of waterline to the sailing yacht, was adopted in circumstances which gave it no warrant of utility—at least, none beyond a trifle of deck space aft.

Designers of tramp steamers were the first to grasp the advantages of the battleship stern. Its structural simplicity and capacity suggested good value for money, and each month adds to the list of tramps so designed. From the tramp on one side and the small motor yacht on the other, we have, therefore, this shape of yacht stern, formerly only to be found on ships of war or vessels designed in imitation of them, such as the Siamese Royal yacht, Maha Chakrkri, built many years ago in this country.

One may reasonably ask how long it is likely to take to make us admire the endless, sparless, funnelless power yacht of the future. A very short time, in all probability, and that for the reason that the change makes for economy of effort.

I do not suggest that naval architects are the only slaves of tradition. They are indeed less so than others, for they must perforce study economy of effort in every direction, and one cannot do so without running counter to the fetish of use and wont. Who would dare to estimate what tribute, as a nation, we pay to tradition, estheticism, the visual sense, or whatever we may term what we are used to, and what we are accustomed to *see?*

In yacht design, therefore, let us be reasonable, and accept new departures, not indeed at their face value, but at their true worth. One need not depart from the beaten track only to gain an unmerited reputation for originality. One must produce a good reason for variation. It is disheartening to note how easily some are led astray in this matter. Rating rules for the classification of racing vessels ruin more cruisers than one would care to count. Lean-ended, narrow-gutted craft are foisted on people who desire to sail the seas in peace and comfort. Some console themselves with the belief that by using such contraptions they look smart. Would they but give the matter more thought they might appreciate the fulness of their folly. Nothing is ornamental which is not useful in itself or reminiscent of usefulness.



PROFILE OF THE NEW TWIN-SCREW MOTOR YACHT ARA, DESIGNED BY CHARLES NICHOLSON, SHOWING THE TENDENCY TO DISCARD CLIPPER BOWS AND OVERHANGING STERNS IN FAVOR OF THE SO-CALLED BATTLESHIP TYPE, WHILE THE USELESS STACKS ARE RETAINED AS A SOP TO THE VISUAL SENSE. NICHOLSON IS ALSO THE DESIGNER OF THE LAST SHAMROCK

Exhaust Piping

In order to have exhaust pipe under cockpit floor of my 26-foot raised-deck motorboat, I wish to run it from muffler to outlet on side of boat just above (one inch) waterline, and just aft of amidships. The exhaust pipe is to drain from muffler. The muffler is a water-cooled Thermex and drains in the usual way. The exhaust pipe from muffler to outlet is 1½-inch diameter and the engine is a 2-cylinder, 2-cycle, 6-horsepower. This arrangement will no doubt work when running in smooth water, but how about it when boat is rolling?

J. P. STAGG.

You may have considerable trouble by having the opening in the side of your boat amidships so near the waterline. While this would be workable in absolutely smooth water, if the boat has any list at all, or it is even a trifle rough, she will be almost sure to draw water back into the pipe when the engine starts and may even pull it through the muffler and into the engine; also, when rolling, it will be noisy and, as the pipe is immersed, create a back pressure on the engine.

You would get much better results by running your pipe aft under the cockpit floor and then taking it out through the transom several inches above the waterline, with an elbow in it, if necessary, to prevent water getting in if boat is overloaded below exhaust opening.

Parceling for Manila Cable

If your boat is swinging at anchor a good deal, so as to make the cable chafe against the stem of the boat, bobstay, chocks or hawse-pipes, it is a wise precaution to protect the cable at that point by wrapping it with a piece of canvas or burlap. This is called parceling.

Lubricating Oil for Warm Weather

IN warm weather it is usually advisable to use a somewhat heavier oil or grease than is necessary in cold weather. This is due to the fact that an engine will run hotter in warm weather and with warm circulating water than it will in cold weather, and oil grows thinner as its temperature increases. The separating film of oil has a tendency under friction to get so thin that unless it has a good body it will not properly separate the surfaces. For extremely warm weather the heavier grades of regular lubricating oils are the best.

Nathaniel Bowditch—Shipmaster, Navigator and Mathematician

Something About the Life and Work of the Author of the Mariner's Guide and Friend, "The American Practical Navigator."

BY GERSHOM BRADFORD, 2D.

THE U. S. Hydrographic Office has recently published a revised edition of the *American Practical Navigator, Bowditch,* thereby assuring it a new lease of life beyond its, now, one hundred and fourteen years of useful service to five generations of British and American mariners.

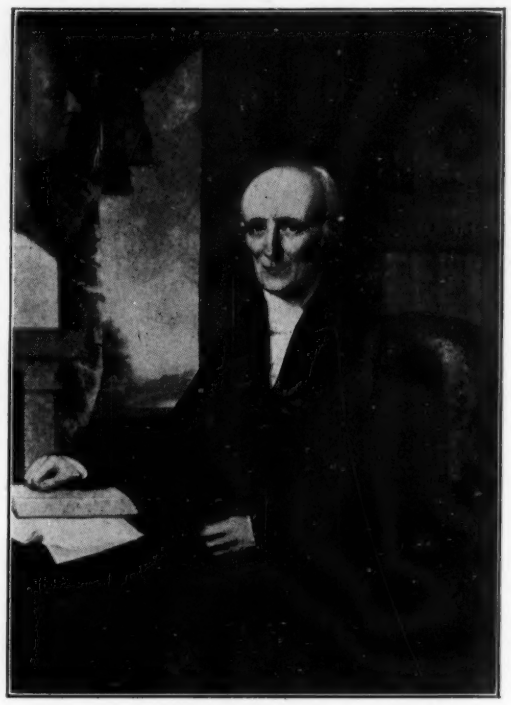
There is no technical book in the country to which is attached so much of the glamor of adventure and romance of our history. It became the navigator's best and closest friend away back when our merchant marine was beginning to reach out for our share of the world's trade. It was always his ready aid as his vessel sailed the waters of unknown seas or raced in competition over the great highways of commerce; aboard naval vessels all down through our history it has played its part in every achievement under the Stars and Stripes; it has gone down to Davy Jones in every form of marine disaster. To an American it is not only a notable book, it is one of our nautical institutions.

But how about Bowditch, whose name, after a hundred years and through numerous revisions, still honors the back title of this Government publication? This question could have been answered by almost anyone interested in nautical affairs in years gone by and should be familiar to them to-day. The life of Nathaniel Bowditch is not without interest, being typically American and characteristic of the romantic days in which he lived.

After the Revolution, when our ships were breaking into China trade and other remote parts of the earth were beginning to see the flag of the new nation, our intrepid shipmasters were obliged to navigate with very inaccurate tables for working latitude and with no knowledge of their longitude save what they guessed it to be. It was at this time (1801) and with these conditions that Nathaniel Bowditch, of Salem, published his *Practical Navigator.* In this volume, among many other things, he placed before the mariner in a comprehensive manner the method of finding the longitude by employing the altitude of the sun, the altitude of the moon, and the angle between them. This was known as the "lunar" and was a boon to the early navigators before the chronometer came into general use.

Dr. Bowditch was born in 1773, of very humble parentage—in fact, his younger boyhood was spent in utter destitution. At a very early age he developed a remarkable mathematical mind, absorbing the contents of every available book in his off time from the ship chandlery to which he was apprenticed at the age of ten years. He eagerly sought every new arrival in Salem who professed any mathematical attainments that he might glean some new points of information for his thirsty mind.

The works that he now so much needed came from a very unexpected source. During the period of Bowditch's youth the Colonies were sending forth many privateers to engage in the lucrative and often dangerous pursuit of British commerce. One of these, a Beverly vessel commanded by a very bold and daring man, penetrated



NATHANIEL BOWDITCH, LL.D.
SHIPMASTER, MATHEMATICIAN AND NAVIGATOR

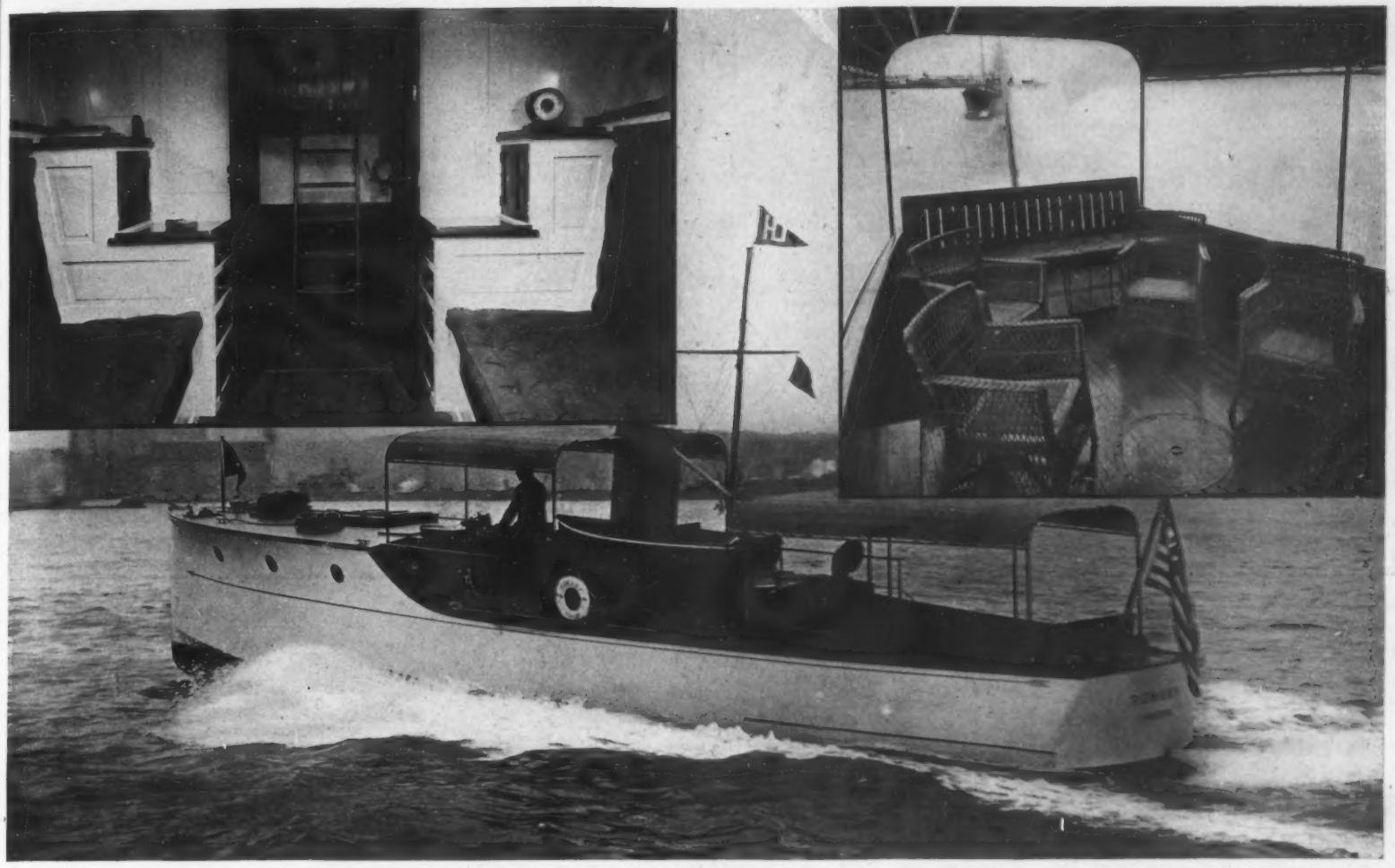
the Irish Sea in quest of the enemy. While there she fell in with an English vessel, which, after a short resistance, became her prize. The cargo was somewhat disappointing to the eyes of the privateersman, but they removed some portions of it, among which was the library of Dr. Richard Kirwan, an eminent Irish scientist. This valuable collection of books was brought home and eventually sold at auction, becoming the foundation of the famous Salem Atheneum. Here Bowditch was given access to them through the kindness of his friends. He was always grateful for the privileges he received from this admirable institution of his native town.

Seventeen years of age found him in the midst of Newton's *Principia,* he having learned Latin that he might master this great work. As an illustration of the young man's keen desire for knowledge, he went to the immense task of copying in longhand whole volumes of certain works that he might have them at sea with him for future study. At the age of twenty-one he was recognized as the leading mathematician in that part of the country.

Dr. Bowditch was a mild-mannered man and, perhaps as a result of mental concentration, was not physically robust, this fact placing him quite in contrast with the rugged seafarers of Salem. His qualifications not being an asset as a seaman, and the sea being the broadest highway of employment, he shipped when twenty-one years old as a ship's clerk and later as a supercargo, where he enjoyed abundant opportunity to study and improve the crude methods of navigation then in use. It is said that he delighted in teaching the men; and as the sailors were all Americans of superior intelligence, there was no impropriety in doing this. His ship, on his second voyage, the Astrea, was probably the most heavily manned vessel, as far as navigating qualifications went, in the world, for after a voyage to Manila there was not a man on board, forward or aft, who could not work a lunar; there were many ships sailing to China at that time in which no one on board could work his longitude from an observation. Of the Astrea's crew every seaman afterwards became either a master or a mate.

A story is told of the young supercargo which showed his lack of physical fear. One day when in the vicinity of the Straits of Gibraltar the Astrea was chased and was being overhauled by one of the French privateers that were preying on our Mediterranean commerce. The guns were run out and every preparation made for a fight. Bowditch was assigned to hand up powder from the after magazine. In the midst of the suspense the captain happened to look through the cabin skylight and saw the young man, with a pile of ammunition beside him, engrossed in some mathematical problem!

Dr. Bowditch afterwards became master of the ship Putnam and made a voyage to the west coast of Sumatra for wild pepper. But, not enjoying sea life sufficiently, after nine years he returned ashore, where he could follow his studies and researches with more satisfaction. In these he is shown by the honors conferred upon him, to have been eminently successful. The first of these received, while yet going to sea, was the degree of Master of Arts from Harvard. A pleasant incident occurred in this connection. His ship happened to be wind-



ROMANY, A NEW V-BOTTOM EXPRESS CRUISER THAT HAS ALL THE COMFORTS OF A BOAT BUILT EXPRESSLY FOR CRUISING, COMBINED WITH A SPEED OF OVER TWENTY MILES AN HOUR

bound in Boston, giving him an opportunity to attend the Class Day exercises. While there he thought he heard his name mentioned in the list of honored persons, but could not believe it until convinced by the congratulations of his friends.

He was afterwards made a member of the Harvard corporation, an honor he prized above all others. He was tendered the chair of mathematics at Harvard, West Point; and the University of Virginia. In the latter offer he was very flatteringly pressed to accept by President Thomas Jefferson, but he declined all three. He was the recipient of many honors from abroad, as enumerated in the older editions of the *American Practical Navigator*. Upon his death the shipping of the world, foreign and American alike, showed their respect by half-masting their colors at home and in faraway ports.

Dr. Bowditch's other notable work was the translation of Laplace's *Mecanique Celeste*, a tremendous work of four volumes, with many notes and observations of his own. This work was head and shoulders above his *Navigator* from a scientific standpoint and gave him high standing among men capable of judging such a book. He would have preferred to be known to the world by this later work than by his earlier and more popular *Navigator*, for, viewing it from the heights of the mathematical attainment of his maturer life, he looked upon it as an achievement hardly fitting his capabilities. However, he would no doubt have been gratified had he known that the Government was to buy all the plates and copyrights in 1866 and perpetuate his name as the father of American navigators.

Romany, A Handsome 50-Foot Express Cruiser

AS an example of the room and comfort that can be had in the modern express cruisers, combined with seaworthy qualities and high speed, the new motor yacht Romany, recently completed by the Greenport Basin and Construction Company for Mr. Holland S. Duell, of New York, is interesting. Romany is one of W. H. Hand's V-bottom designs and as the pictures show, is an unusually well-proportioned and handsome boat. She is 50 feet long with an ample beam of 10 feet 2 inches and draft of 3 feet. There is rather a high raised deck forward with good sheer and flam. Just abaft the break in this deck is a steering bridge, approximately amidships, covered by a permanent awning on stanchions. Then comes a low mahogany cabin house with side ports, while there is an unusually roomy watertight cockpit aft protected by another awning. The accommodations below consist of a large main saloon with sleeping accommodations for four, buffets, lockers and the like, and a large toilet room and galley all under the forward raised deck. The power plant is an 8-cylinder, 5½" x 6" motor of approximately 150 horsepower, which gives the boat a speed of over 20 miles an hour. She has done 24 miles with the tide in the Hudson River. All engine controls lead to the bridge. In the engine compartment under the cabin trunk are berths for two men. In her first race to Block Island Romany made the 115 statute miles in seven hours, which is excellent for the power employed.

Concerning Stockless Anchors

THOUGH stockless and various kinds of patent anchors are not used much for yacht and motorboat work, in certain kinds of bottom and under certain conditions the modern stockless anchor will hold as well as the kedge. For general all-around use in a small boat, where anchorage is had on all kinds of bottoms, a kedge is still usually preferred, as, with plenty of scope to the cable, an anchor with a good stock (or crossbar) will hang on better in a hard blow.

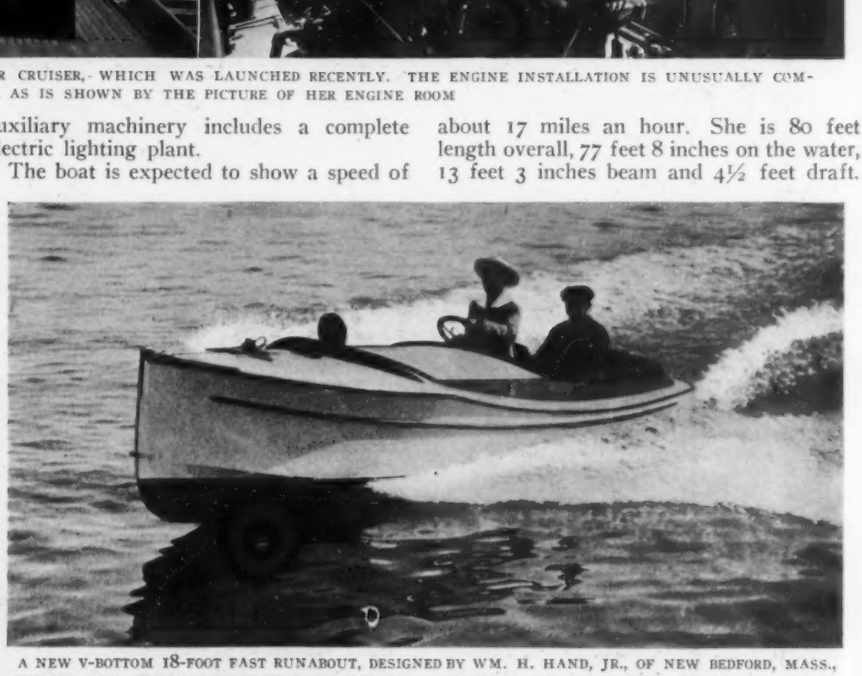
Stockless anchors are in almost universal use on large boats at the present time, and give good satisfaction. They are easy to handle, as there is no "catting" to be done, and another advantage is that the cable does not foul as it is apt to do on the stock of the kedge. For all-around use on a boat it would be well to have two anchors—one, a stockless, for ordinary use, and, in addition, a good kedge anchor for a heavy or storm hook to depend on in time of need.

ELMARLU, MR. JAMES S. OTTLEY'S 80-FOOT MOTOR CRUISER, WHICH WAS LAUNCHED RECENTLY. THE ENGINE INSTALLATION IS UNUSUALLY COMPLETE, AS IS SHOWN BY THE PICTURE OF HER ENGINE ROOM

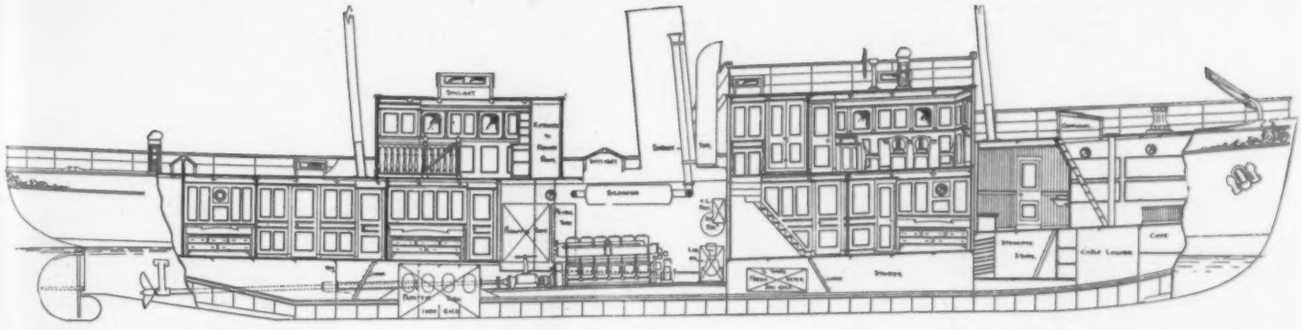
An 80-Foot Motor Cruiser

THE 80-foot power cruiser Elmarlu, which was recently launched from Nevins yard, City Island, N. Y., for Mr. James S. Ottley, of New York, is one of the handsomest boats of her type that has been turned out this year. She was built for use on Long Island Sound and for coastwise cruising and she is not only fast, but has an unusual amount of room in her for a boat of her size. She is of the raised deck and extension trunk cabin type with a plumb stem and the prevailing destroyer stern. On the forward deck is a cabin house 3½ feet high in which is the dining saloon, the companion steps leading down from the bridge deck. The hull is sub-divided by four steel water-tight bulkheads, the engine room being completely separated from the rest of the boat by two of these. The engine room installation is unusually complete, the power plant consisting of two Model D, 6-cylinder, 6½" x 9" Sterling heavy-duty motors rated at 70 horsepower each, all the gears and working parts being enclosed, making an exceedingly silent running engine. The auxiliary machinery includes a complete electric lighting plant.

The boat is expected to show a speed of about 17 miles an hour. She is 80 feet length overall, 77 feet 8 inches on the water, 13 feet 3 inches beam and 4½ feet draft.

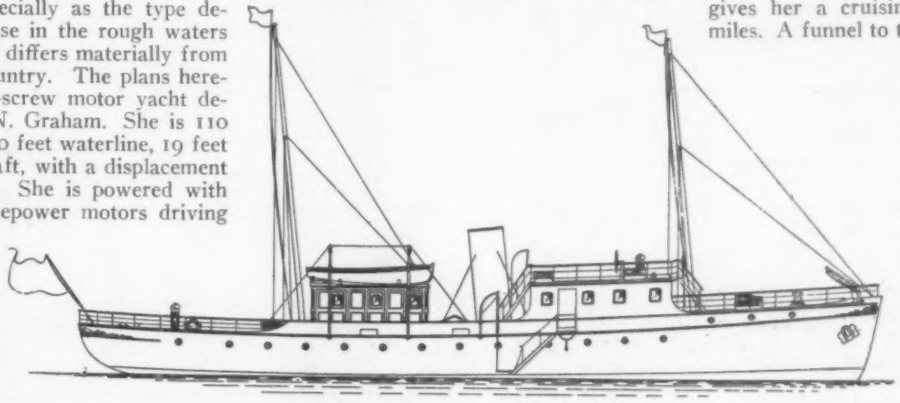


A NEW V-BOTTOM 18-FOOT FAST RUNABOUT, DESIGNED BY WM. H. HAND, JR., OF NEW BEDFORD, MASS., FOR MR. WM. WALLACE OF BOSTON FOR USE AT NANTUCKET. SHE IS OF THE STANDARD V-BOTTOM TYPE, ATTRACTIVE IN APPEARANCE AND HANDSOMELY FINISHED. EQUIPPED WITH A 20-H.P. 3¾-INCH BY 5-INCH MOTOR, INSTALLED WITH FULL AUTOMOBILE CONTROL. SHE HAS A SPEED OF 19 MILES PER HOUR



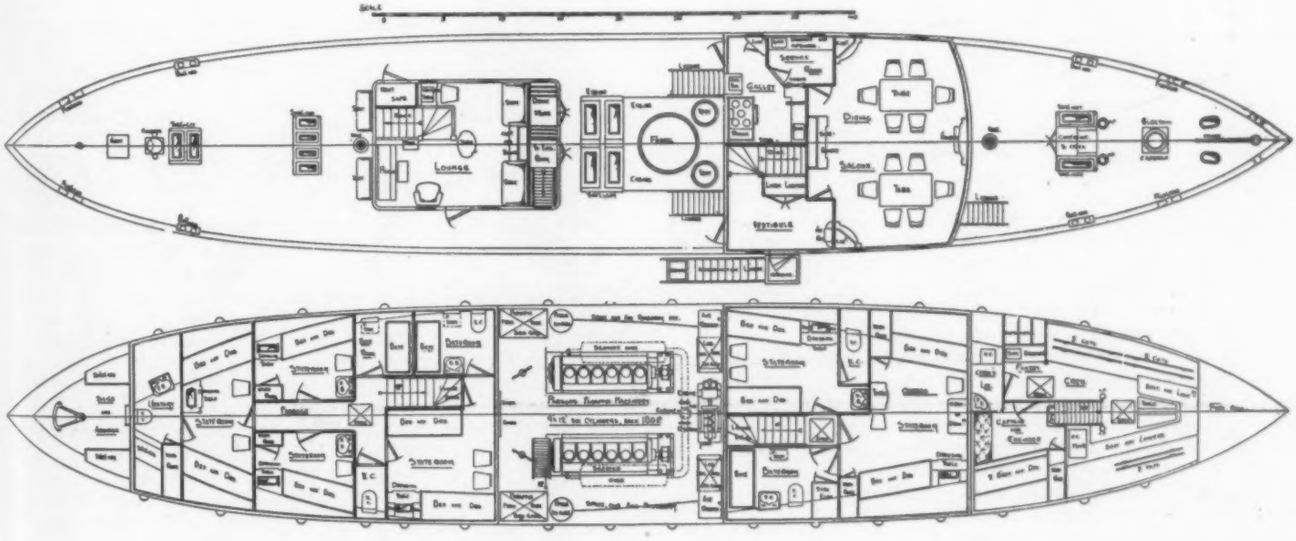
An English Twin-Screw Motor Yacht

WITH the acceptance of the internal combustion engine as power for large-sized yachts—where it is rapidly replacing steam—the recent developments in this type of boat in England are interesting, especially as the type developed there for use in the rough waters of the English coast differs materially from the boats of this country. The plans herewith are of a twin-screw motor yacht designed by Sydney N. Graham. She is 110 feet long overall, 100 feet waterline, 19 feet beam and 6 feet draft, with a displacement of about 120 tons. She is powered with two 180 brake horsepower motors driving twin screws that give her a speed of about 12½ knots. In profile the boat looks very much like steam yachts of the Privateer type, or the steam pilot boats of NewYork Harbor.



She has an unusual amount of accommodation for a 100-footer—about as much as a 170-foot steam yacht—there being six large staterooms, three bathrooms, a large deck dining saloon and an after deckhouse containing a music room. The sides of the forward deckhouse are carried up flush with the sides of the boat, giving a saloon the full width of the deck. In the after end of this deckhouse is a vestibule which opens onto the gangway ladder, a novelty which should prove particularly popular in wet weather. There is a large bridge on top of the forward deckhouse. The yacht is of steel construction throughout, the fuel being carried in built-in tanks in the after hold between the two shafts, with extra feed tanks in the engine room, there being a total capacity of 1,600 gallons, which gives her a cruising range of about 600 miles. A funnel to the engine room is fitted as a concession to looks. The boat is an unusually fine, able-looking craft, though a little more depth and draft would not hurt her for offshore work.

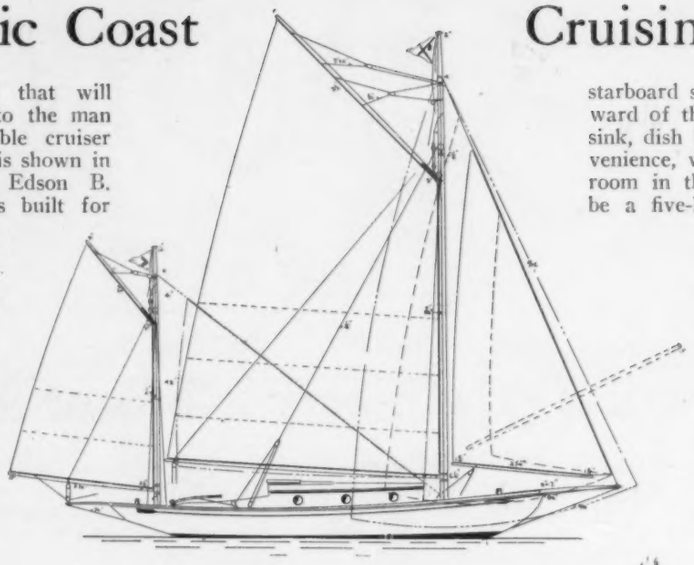
The outboard profile is well proportioned and balance is given to the superstructure by the after deck house, which forms the entrance to the after cabin and also allows space for a comfortable smoking and lounging room. Two boats are carried on skids, and when chocked in position there is full headroom beneath. There is a good clear run of after deck.

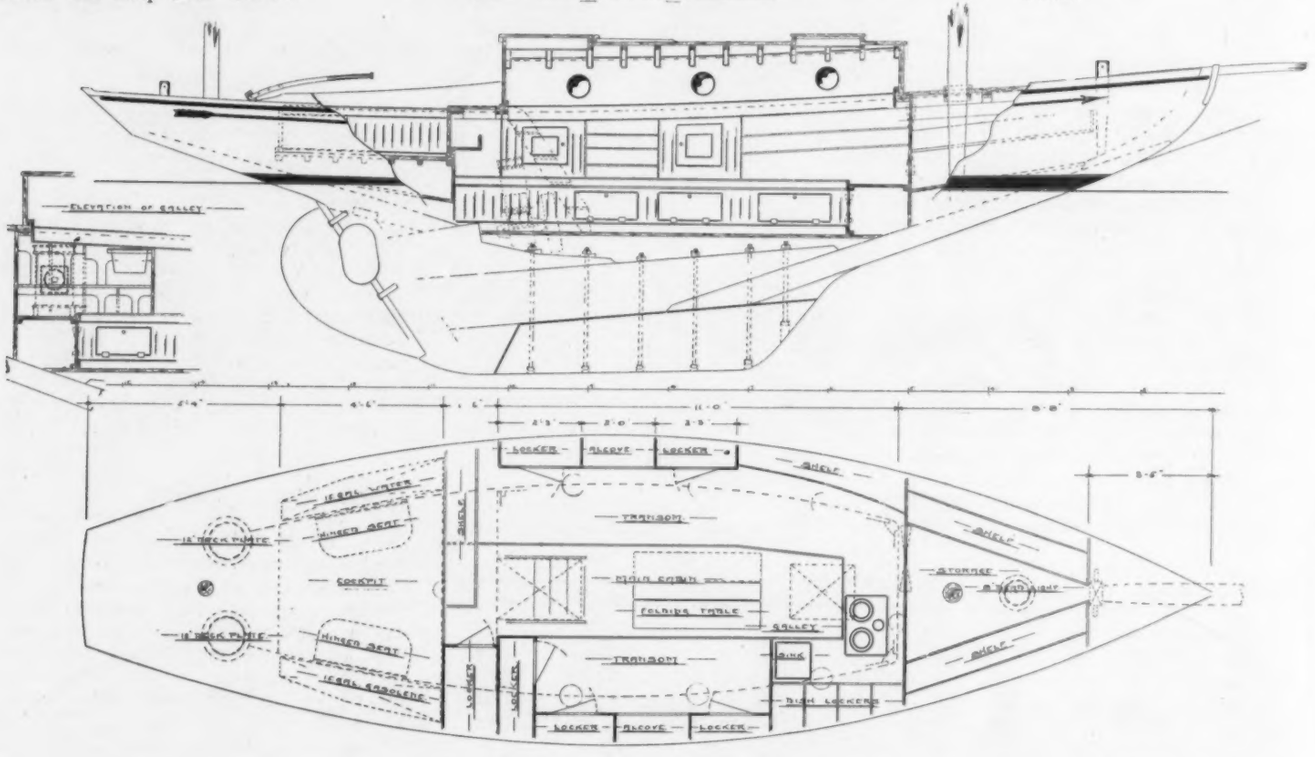


A Pacific Coast Cruising Yawl

A SMALL auxiliary yawl that will make a special appeal to the man that wants a comfortable cruiser without having too big a boat is shown in the accompanying plans by Edson B. Schock, N.A. The boat was built for W. G. Breeze, rear-commodore of the Royal Vancouver Yacht Club, and is 31 feet long overall, 22 feet on the water, 8 feet 6 inches beam and 5 feet 2 inches draft. The freeboard is moderate and the sheer is ample, while her ends are well turned and long enough to give plenty of bearing. The cabin is well laid out, there being good floor and locker space. On the port side is a single transom the full length of the cabin which will sleep two. On the starboard side single transom berth. Forward of this latter berth is a galley with sink, dish lockers, and every cruising convenience, while there is plenty of storage room in the fore peak. The engine will be a five-horsepower, single-cylinder, installed under the bridge deck and companion steps. This power should give the boat a speed of about six miles per hour in smooth water. The ballast is outside and the sail plan shows 660 square feet of sail area, with the centers worked out so that the boat will balance under any combination of the three sails.

Over five feet of headroom under the carlines is obtained without an unduly high cabin trunk.



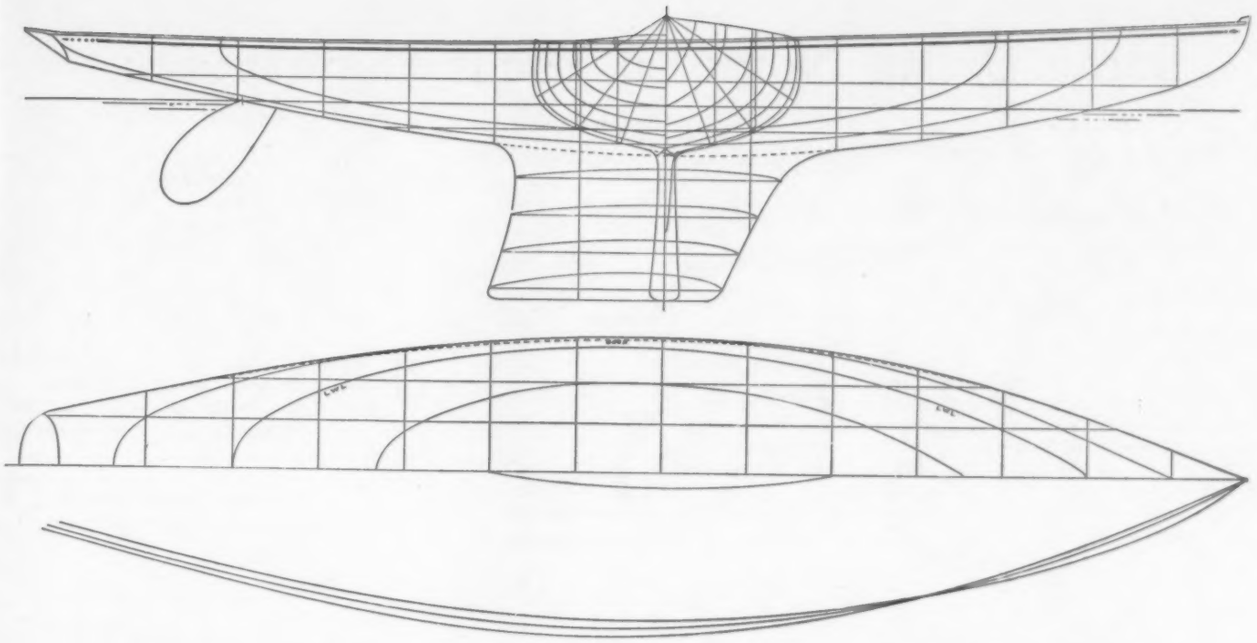


Hints for the Cabin Table

AN English yachting magazine gives the following list of provisions taken by a party of two for a week-end cruise: Three Brittany onions, one bag Spanish chestnuts, one Camembert cheese, one tin North Sea herring, four bananas, one can U. S. A. Heinz beans, two eggs and one cake. This would hardly suit the average American cruising man, especially when the market offers so much and such a variety with which to stock the galley locker. Beans and herring are not to be despised under certain conditions, but they are not to be compared to some of the rolled or pressed meats that are packed in glass jars (if one is limited to packed meats) and canned kidney beans or spaghetti. Canned tuna makes a very delicious food, and when made up into salad with some bottled mayonnaise dressing is most appetizing.

Don't fail to get your coffee before you start, so as not to have to trust to the uncertain brands of country stores that you may strike on the harbors along your route. Get it ground and put up in airtight tins, such as those in which the well-known brands come. You are sure then of getting a real cup of coffee in the morning or when you are wet and tired after a hard day's run. Cocoa and tea should also be carried as a change, as coffee three times a day is too much for a good many people.

Don't fail to keep the ice box stocked up with liquids that can be drunk freely in hot weather, such as ginger ale, grape juice, aërated waters, and the like. Tank water on a small yacht is usually not very palatable. For those who want something stronger before their meals cocktails can be had already mixed in bottles, such as the "Club" variety, which can be readily stowed, save the fuss of mixing and are easily served.



New Rating Rule for Small Boats

WITH the failure of the British International Rating Rule to promote racing in the smaller classes the English yatchtsmen have formed recently a Boat Racing Association to foster racing among the little fellows. With this end in view a new rating rule has been worked out by which small yachts and boats are to be measured for competitive purposes. In this new rule there was no desire to produce a certain type of boat but rather to find a rating rule which would enable existing boats to meet on an equitable basis and to allow new boats of different types to race together.

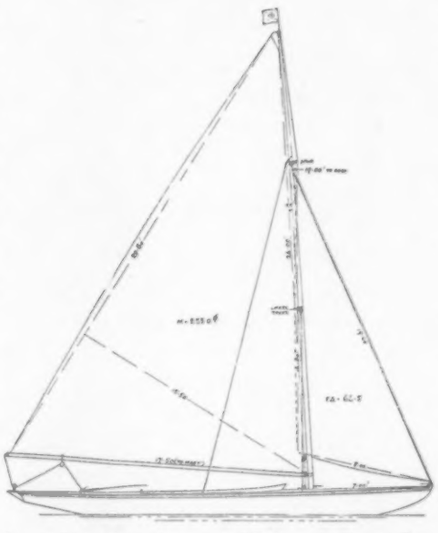
The English International and the American Universal Rule attempt either to produce boats of a certain type, or the fastest vessels for their length and sail area in relation to weight and length of waterline. The older Seawanhaka Rule was merely an attempt to produce the fastest possible boat for its length and sail area without other restrictions. The new rule, therefore, of the English Boat Racing Association is a compromise between these two rules and takes into consideration the elements of each. It is really a combination of the formulæ of the two rules. The formula is as follows:

$$\frac{L+\sqrt{S}}{4}+\frac{L\sqrt{S}}{3\sqrt[3]{W}}=R$$

$L+\sqrt{S}$ in the first half favors the lightest possible displacement, and

$$\frac{L\sqrt{S}}{\sqrt[3]{W}}$$

in the second half, the heaviest displacement in reason, in relation to length and sail area. The co-efficients ¼ and ⅛ have



been introduced to establish a balance between the two halves, so that a boat of average weight, in relation to her length and sail area, will rate an equal amount in each half.

Weight is not ignored as in the case of the Seawanhaka Rule, nor has it had an undue premium set on it, as in the case of the Universal Rule. In addition to this, carefully arranged scantling tables have been worked out, the object being to prevent the building of extremely light hulls.

Given the rule, the question is what type of boat will be worked out under it? The English *Yachting Monthly* has asked a number of the leading English designers to design boats under this rule. The first design that has been published is by Linton Hope of a 17½-foot waterline boat. The design is reproduced herewith and shows a boat which seems rather to be a step backwards towards the fin-keeler, a type which has become obsolete in this country since the adoption of the Universal Rule. For smooth and sheltered waters this boat might be a particularly good type, but we do not believe that it is one that would find much favor with American yachtsmen, as our small boats of this size are roomier and are much more of a boat. What the other designers will produce under the rule remains to be seen and we will watch for future boats with interest.

The adoption of a rating rule for small boats that would be the same in England and America might have the beneficial result of bringing about racing in small boats between the two countries. It seems a pity that the two leading yachting countries, England and America, both of the same race, should have practically no racing between them except the occasional contests for the America's Cup. International racing in small boats between the two countries would be productive of much good, and, if it could be brought about by the adoption of the same rating rule, it would be well to give the matter careful consideration. Our own Universal Rule has worked out so well that we believe the English yachtsmen would find that it has produced a type of boat eminently suited for English waters, though it would not, of course, work equitably in racing boats of the old type against boats built strictly under this rule.

"The Fog that Ties You Blind"

One of the passengers on a transatlantic liner, an attractive old lady, was much worried when crossing the banks of Newfoundland, because the ship was running *without lights* in a dense fog.

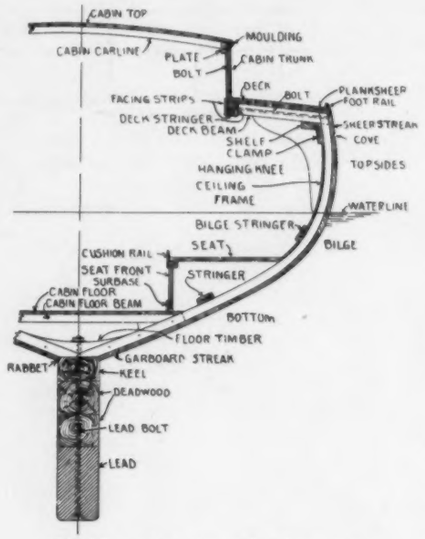
Some Useful Notes on Yacht Construction

BY CHAS. H. HALL

YACHTSMEN, as a rule, are quick to appreciate good seamanship, and many of them have a very keen eye for a boat's model. When it comes to construction, however, there are comparatively few who have given the matter much thought or who have really had the opportunity to study the different methods of boat building. While the main points of a boat's construction are common to all builders, yet each yard is apt to have its own method of performing certain parts of the work. The naval architect, too, often has his own methods of working out details. Usually these are good, but occasionally a designer shows on his drawings ways of fitting the parts of the boat together that are unnecessarily expensive. Some builders take great pains with all of the work and do not grudge the extra labor and time necessary to do a first-class job. Others, while not strictly scamping work, will consistently choose the method that costs the least, even though not quite as good as a more expensive one.

Anyone who has compared bids from different yards for the same boat, even when very complete plans and detailed specifications have been submitted, will be struck by the wide variance in price. It will usually be found that the builders with a reputation for doing first-class work submit prices quite close together and all of them rather high. The layman cannot see why there should be this difference, but if he could visit the yards of the cheap and the expensive builder and watch the workmen on similar jobs he would be struck by the greater care and longer time spent in ensuring good work at the yard of the high-class firm. The cheap man, on the other hand, is apt to "let good enough go," and it will be found, for instance, that stringers do not fit the frames closely on both edges, seams are not of uniform width, fastenings are not well driven, etc. The quality of the workmanship in a boat is what very largely governs the price, as there are few industries in which such a large proportion of the cost is for labor. Good workmanship pays in the long run. The well-built boat has a long life, while the craft that is thrown together soon racks herself to pieces and disappears from the Register.

The quality of lumber used is all-important, and here again first-class work runs the price up. Practically every stick in a boat should be of clear, straight-grained wood, although in some parts, such as the outside planking, a few small, sound, red knots are permissible. To get this material always means paying a special price and often entails a search through the whole-



Midship section of a small sailing yacht

sale lumber yards. Indeed, some of the lumber that we find specified in plans is very hard to obtain.

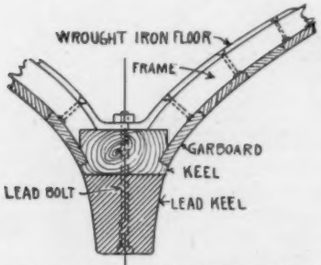
Concerning Fastenings

One of the most important items in a boat is the method of fastening, and there is considerable difference of opinion on this point. Many think that copper fastening is the only thing, and, indeed, good copper fastening is the best. A poorly driven copper bolt, however, is not as good as a well-driven one of galvanized iron. If a copper bolt be driven with too heavy a hammer it will bend in the hole, or cripple, as it is called, and crush the fibres of the wood. This will happen, too, if a clinched fastening is riveted up with too heavy a hammer, or with a few hard blows. The proper way to clinch a copper fastening is to keep tapping it with numerous blows of a light hammer, the force of the blow being expended in forming the point and not in bending the bolt. Galvanized fastenings, properly driven, will last for a long time, provided there are no copper or yellow metal bolts near them. If this is the case electrolysis will take place. No black iron should be used anywhere in a boat. It is bound to corrode and, aside from the weakening of the fastening, will make unsightly rust streaks.

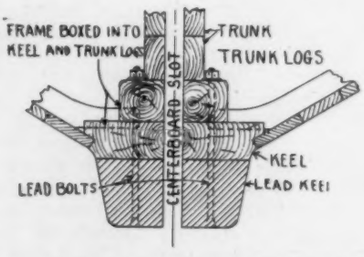
The Keel Construction

The backbone of any boat is the keel. In this country this is almost always of oak; white oak, if it can be obtained, if not, then the best quality that can be bought. It should be worked in as long lengths as possible, and if it cannot be gotten out in one length the scarf where the two pieces join should be long, closely fitted and well fastened. The size is determined by the designer, also its shape and the position of the rabbet where the plank joins it. The proportions of the keel will vary with the type of boat, the construction in the centerboarder being quite different from the keel one. What is termed a plank keel is often fitted, in which the width is much greater than the thickness, so that the keel will bend into place.

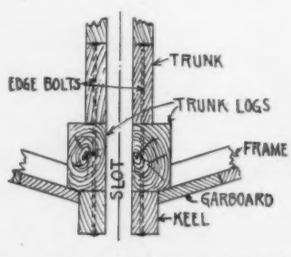
It is usually rabbeted for the garboards —the lowest width or strake of the outside planking. This rabbet is sometimes a groove cut on the side of the keel to receive the garboards, sometimes merely a trimming off of the upper corner. If no rabbet is cut and the garboard merely fits against the keel with a vertical seam, caulking this seam will tend to wedge the garboard away from the frames. This is poor practice and is indulged in only by cheap builders. The stem and stern post are fitted to the ends of the keel, the stem usually being cut out of a hackmatack knee. It may be explained here that a knee is a crooked piece of timber cut from a tree where the root joins the trunk, or sometimes where a branch diverges, so that the grain afterward follows the shape. Hack-



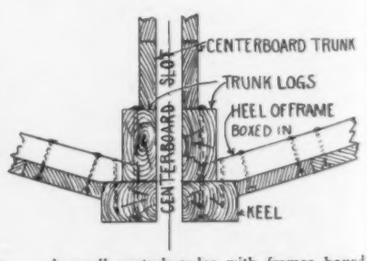
Wrought iron floor. Good construction for a keel boat



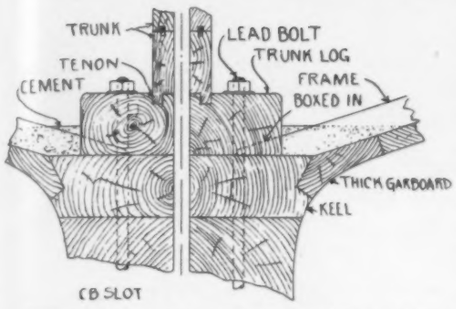
Keel construction of centerboard boat with frames boxed into keel and trunk



Poor construction. Caulking the rabbet will force the garboards off



A small centerboarder with frames boxed into trunk logs

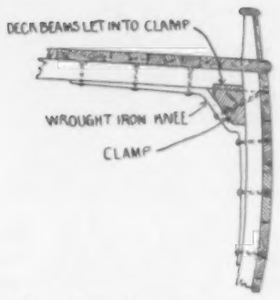


Trunk logs are heavy, with trunk mortised into them. Thick garboards are worked down to a curve.

matack is generally chosen because of its tough, leathery qualities; oak is also obtainable, but it is apt to open up and check. The sternpost is generally a straight-grained piece with the lower end or heel cut with a tenon which fits into a mortise on the after end of the keel. The space forward of the sternpost and below the rabbet is filled in with deadwood.

The Frames

The frames—what the novice calls the ribs—follow the shape of the boat from the keel to the gunwale. In the old days these were very heavy and were worked out of natural crook oak or chestnut. Nowadays a small yacht's frame is generally of steam-bent oak and runs in one length from keel to plankshear. Sometimes they are tapered, being deeper at the heel, but more often are of uniform size for the entire length. The thickness fore and aft is called the siding, and depth vertically or athwartships the moulding. Thus we may describe a frame as sided 2″, moulded 2½″ at head, 3¼″ at heel. The siding of the keel, by the way, is measured athwartships and the moulding up and down. Frames usually end at the center line, being fastened there to the keel, and are connected by a floor. This is a piece of timber running across the keel and generally alongside of the frame, to which and to the keel it is fastened. It is deeper in the middle—what is called the throat of the floor—and usually tapers towards the ends or floor head. It runs out far enough each side to get good fastening to the frame. The bolts holding the lead ballast generally pass through the floors, which are made thicker where these bolts come. At the ends the floors are often made of plank and fitted alongside the frames or on top of them. The floor is always on the side of the frame toward the middle of the boat. This is on account of the shape of the boat, as otherwise, if the floor were away from the center, it would be beveled off so that there would be no chance to fasten it. Metal floors are often fitted. These are usually of wrought iron and are fitted on top of the frames. They are sometimes built up of plate and angle iron and fitted alongside. They should always be galvanized.



Wrought iron beam knees are neat and strong

Centerboard Construction

So far we have spoken of keel boats. The centerboarder introduces a different problem. We have a long slot cut through

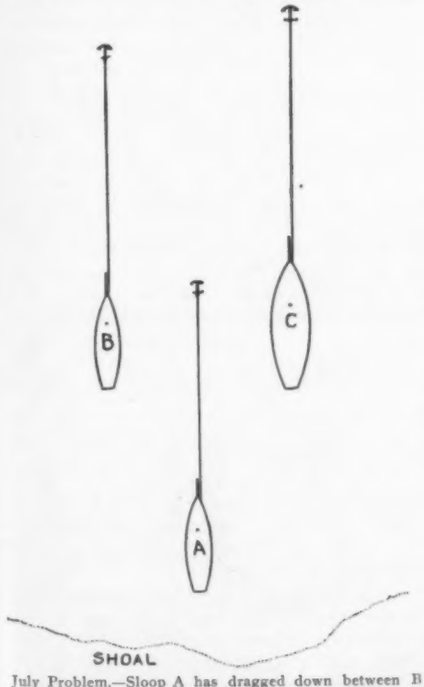
(*Continued on page* 84)

Answers to Seamanship Problem for July

SLIP CABLE

Answering the problem for July, If I were on boat A and had to "claw off" under the conditions given, I would set mainsail close-reefed, would have jib stops off and downhaul clear, then, with a man forward, I would slip my cable, buoying the end with an empty water jug so that I could pick it up again; would get jib set and sheeted home smartly, letting her go on either tack clear of B or C into a more sheltered anchorage. I am assuming, of course, that there is another anchor on board to let go in the new anchorage. I don't believe it would be possible to weigh anchor under the conditions shown without having the boat drift back onto shore.

J. F. K.



July Problem.—Sloop A has dragged down between B and C in a heavy breeze and finds it desirable to get under way and beat up to a safer anchorage; wind directly on shore. How would she do it?

HEAVE IN ON CABLE

Given the conditions in the seamanship problem for July and assuming the necessity for getting out, I would say: set the mainsail double-reefed, provided she would carry that sail, would heave in on my cable until it was so short that the anchor began to drag, when I would set jib to port, sheeting it down hard and giving her a full rap and let her go off under B's stern while the man forward kept heaving in on the cable. The anchor would probably drag for a piece over the bottom, but with a small windlass forward your hook could be gotten and every foot sailed would probably take the boat into deeper water.

M. B.

A CAREFUL METHOD

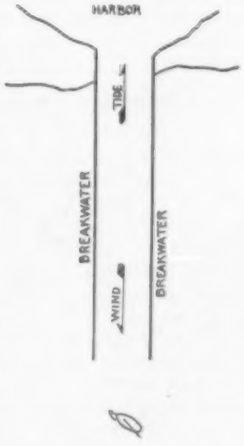
In your seamanship problem in the July issue the boat A seems to be in rather a mess, with strong prospects of becoming a total loss. To get out I would close-reef the mainsail and bob the jib, then I would heave in to a short-stay and bend a stout spring to the cable, lead it outside of everything to the starboard quarter, and make it fast. Then, with a sharp hatchet at hand, I would get up the mainsail, cut or slip the cable and, when the wind comes nearly abeam, cut the spring, set the rag of jib and sail off.

Of course, I would buoy the cable with an oar or something of that sort and take careful crossbearings or ranges ashore just before letting go.

H. C. AMES.

Seamanship Problem for August

IN the seamanship problem for August, assume a centerboard sloop with the centerboard jammed in the trunk, as often happens, so that it cannot be dropped; with the tide running in between the breakwaters at a rate of about three and a half knots and a moderate breeze blowing out directly opposite to the tide. With no power in the ship, how would you manœuvre so as to get inside? The force of the wind is presumed to be from twelve to fifteen miles per hour.



What's the Trouble With Motor Boat Racing? To judge from the motor boat races held so far this year, it is more than ever apparent that the average motor boat man looks upon a race not as a contest in which any skill is involved, but as an event which must carry with it a guarantee of his winning and that is run for his especial benefit. Instead of attracting more boat owners each year, it is attracting fewer, and regatta committees are having harder and harder work to fill their entry lists. The claim of the motor boat owners that the fault is with the racing rule is only partially true, the fault not being with the rule itself but with the effect of the rule on the minds of the would-be racing sharks. They figure out on paper what their boat will do and what the other boats will do, and then get cold feet, because they don't see how they can win, and so don't start.

This holds true in all classes of racing, but especially in long-distance events. There hasn't been a single long-distance power-boat race this year that has had a really respectable entry list; yet the promoters of the different events have worked hard and faithfully and have gotten together attractive prizes, only to have the race a fizzle through lack of entries of boats that would make a good race and would have an excellent show with the display of a little human intelligence in sailing them. Last year the fast cruiser Flyaway III came out, and with a speed of some 21 miles per hour scared all of the other owners off on account of her speed, though she had a high rating. This year Cero comes out with a low speed and a favorable rating and, because she happens to beat Flyaway on corrected time in the first race she enters, she promptly throws a scare into every other boat owner. Most of these men don't take into consideration the fact that in a long-distance race there is an element of chance due to weather conditions, tides, seamanship, etc., which gives every boat a look in, provided her skipper has enough sporting blood to enter.

As an example of how this worked in the second race in which the two boats mentioned above came together, Flyaway III regained her laurels and won the race by over an hour. This was not due to any change in rating, but to the fact that out of the 25 hours taken by Cero to cover the 210-mile course she had the tide against her for 17½ hours, and with her 7½, whereas Flyaway, by reason of her covering the course in quicker time, had approximately 7 hours of head tide and 3½ hours of fair tide. As the average strength of the tide was over 1½ knots one can see what a difference this makes. A head sea might have had equal effect in changing the result. These are considerations that are always apt to be met with in long-distance races, and, if power boat men would only wake up to the fact that "no race is won till it is lost," and enter some of these events, it would not only be a good thing for the sport, but they would be getting an untold amount of pleasure and satisfaction.

Take Your Licking Like a Man! While on the subject of bad sporting ethics among the power boat men, we quote the following letter received from a man that was known as an enthusiastic deep-water racer the first year he got into the game, when he raced his boat to Bermuda and entered a number of other long-distance races: "Am in receipt of your letter of May 20 in reference to entering my boat in the race to Portland, Me. I appreciate your asking me to take an interest in this matter, but inasmuch as in all the boat races that I have had anything to do with a dispute arose in some way I do not care to bother with it any more.—W. M. Duncan."

This letter speaks for itself. It is such conditions as these that kill motor boat racing. Unless the owners of power craft are willing to enter more into the spirit of the game and take a long chance on losing to a small chance of winning, regatta committees might as well conserve their effort and save the money that they spend in expensive prizes for which they can get no competitors. Let us hope that the day will soon come when a man that wants to get into the racing game won't expect a guarantee of first prize with his entry and that the fact that he has only a sporting chance to win will make a special appeal to him to try his knowledge and skill against those of the other man.

Complaint from the Sailing Man In a letter received the other day from one of our readers, who is an owner of a racing craft (sail), he complains of the practice of motor boats passing to windward and close to sailboats when the latter are racing. This frequently happens in every sailing regatta and is undoubtedly due to the fact that the owner of the power boat does not realize the effect that his passing close to a small racing craft has on the speed of the latter. It does not, of course, break up the latter's wind appreciably, but it does break the water badly and with a small sailing racer, especially in a light breeze, the effect of even slightly broken water is to slow the boat up very quickly. Give small racing sailboats a berth.

Drainings from the Bilge

Marine Reporting As It Is

THE nautical intelligence of the average newspaper reporter is not to be gauged by his ability to write on any subject to which he is assigned. Witness the following from the New York *Herald* regarding the recent collision of the steam yacht Vanadis and the Bunker Hill on Long Island Sound:

"The Bunker Hill was not taking on much water, although her timbers had been loosened by the jolts"—the Bunker Hill being a steel steamer. And this from the same source anent the same collision:

"Robert Smith, fireman of the Bunker Hill, gave the following account of it:

"'I was in my quarters on the forward deck when I heard our danger signal—four short, sharp whistles. I looked to port and saw the Vanadis ten or fifteen yards away and making from eight to ten knots. I am sure she was making that speed because I could see the foam on her bow despite the thick fog.

"'The Bunker Hill was capable of ten knots (she does 20 knots easily—*Ed.*), but we were making only five knots because of the fog. I heard the captain order full speed ahead, and almost at the same instant the high clipper bow of the Vanadis struck us forward. Had the Vanadis been riding low, like an ordinary craft, she would have cut us in two with her razor-edged bow.

"'As it was, the suction of our wheel drew the Vanadis into us again, and she hit us a second time, slightly aft, and ripped away every one of the thirty-six staterooms on the port side from the passenger gangway to the stern.

"'Had the captain of the Vanadis stopped dead when he heard our signal and thrown his wheel forward to port he would have sidewiped us, and we should have escaped with little damage.'"

This man should have been on the bridge as an officer instead of a humble stoker. And read this gem from a New York daily regarding the wreck of a coasting schooner.

"All seven members of the crew, including Captain Steelman, took to the spinnaker rigging. Captain Steelman was drowned before our eyes." A spinnaker on a coaster!

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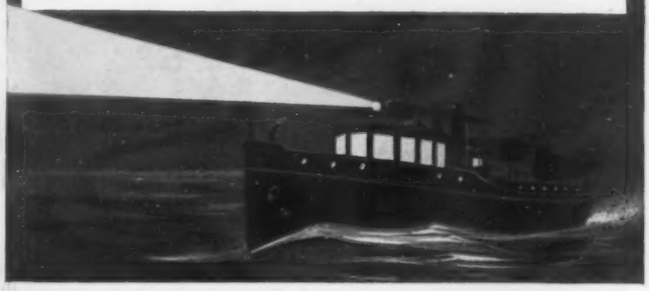

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All the Racing News

Cero Wins Race Around Long Island

IN the long-distance race around Long Island, given by the Yacht Racing Association of Jamaica Bay, W. P. Frost's power cruiser Cero added to her laurels by winning this long-distance ocean contest with a margin of over two hours actual time, and three hours corrected time.

In spite of the large number of entries and a great deal of work by the Regatta Committee in charge of the race but three boats came to the starting line—Cero, owned by W. P. Frost, representing the Columbia Yacht Club; Helena, owned by Commodore C. Harry Green, representing the Belle Harbor Yacht Club, and the Queen, representing the same club and owned by Commodore Van Buskirk. The start was off the Belle Harbor Yacht Club, Jamaica Bay, the course being through West Inlet to Rockaway Point bell buoy, then eastward for 110 miles to Montauk Point, up the Sound and through the East River and lower bay to the starting line, a total distance of 256 nautical miles.

The Helena was first over the line at the gun, followed by the Queen and Cero. Off Rockaway bell buoy, where departures were taken, a heavy southerly swell was met and an "old" sea left from the previous day's easterly. About 5 P. M. Cero caught and passed the leaders, holding her course further offshore in order to escape the flood tide, which started to run westerly along the beach about 6 P. M. The wind freshened from south-southwest and the weather was cloudy and threatening as the afternoon advanced. As darkness shut in Helena could still be seen inshore of the Cero and just a little abaft the beam, but from that time till the finish neither of the boats was in sight of the other.

Cero finished at 10:01 P. M., July 4, having taken 31 hours and 1 minute to complete the course. Nothing had then been heard from Helena, and it was 12:46 A. M. of the 5th before she groped her way through the fog off Rockaway Inlet and crossed the finish line. As she had to allow Cero 1 hour and 1 minute, the former won easily by 3 hours, 46 minutes, 35 seconds corrected time.

There was a large crowd of Jamaica Bay yachtsmen at the Belle Harbor Yacht Club waiting for the finish, and the crews of the two boats were entertained in real sailor fashion when they came ashore. Queen did not finish.

The following extracts from the log of the Cero show how the race was run:

JULY 3

4:09 P.M. Took departure from Rockaway Bell Buoy; course E. x S.; sea rough; heavy southerly swell; wind S.

8:12 P.M. Fire Island Light Vessel abeam bearing south; changed course to E. x N. ¼ N. and streamed patent log; cloudy and overcast.

JULY 4

1:00 A.M. Shinnecock Light abeam; cloudy and hazy; wind shifting to westerly, fresh; heavy, following sea making it difficult to steer; vessel rolling heavily.

5:55 A.M. Montauk Point abeam; fine, clear morning with heavy southwesterly swell.

8:42 A.M. Orient Point Light abeam, having bucked a strong head tide all the way from Montauk; wind W., light.

6:00 P.M. Execution Light abeam; bearing north; had fair tide through the Gate and East River.

9:30 P.M. Off Norton's Point ran into thick fog and heavy southerly sea; felt way in through West Inlet with the lead going; at

9:55 P.M. made out committee boat, and at

10:01 P.M. crossed finish line, where we were told ours was the first boat in.

Cero is a 40-footer built by the Luders Marine Construction Company and powered with a 2-cylinder, 4-cycle Mianus engine. Though her full tankage of 420 gallons of gasolene was aboard the engine shoved Cero along at the rate of 8¼ knots per hour. The course of 256 nautical miles figure out 295 statute miles, and Cero's speed for the entire distance was 9½ statute miles per hour. Aboard the Cero was Captain W. P. Frost, owner; Herbert L. Stone, navigator; H. W. Patterson and R. L. Kibbee, while a little Jap named M. Kida looked after the material well-being of the crew. Dr. L. C. Heimer represented the Regatta Committee on board.

Helena is 43 feet in length, 8 feet 6 inches beam and is powered with a 3-cylinder Twentieth Century engine. She is a glass-cabin launch of good model but hardly the type of boat for ocean racing, and her crew deserve great praise for sticking to it under the trying sea conditions found outside of Long Island. She was commanded by her owner, Commodore C. Harry Green, who had with him as crew Messrs. Hobbs, Ross and G. Rigby, Captain Chapinan representing the Regatta Committee.

Mississippi Valley Power Boat Association Regatta

THE annual regatta of the Mississippi Valley Power Boat Association, which was held at Hannibal, Mo., July 5, 6 and 7, under the auspices of the Hannibal Boat and Gun Club, brought together a good fleet of racing boats and the honors fell to the East, Commodore W. J. Connors, owner of Buffalo Enquirer, taking the two big events. The first of these was what is known as the American Power Boat Championship, an event which carried with it the one-thousand-dollar Webb trophy. The Enquirer covered the 25-mile course on the second day at the rate of 35 4/10 miles per hour, the Buffalo Courier taking the second place.

It was in the free-for-all race of this day that the spectators were treated to the additional excitement of a spectacular rescue when the Mark Twain, a St. Louis speed boat, sank. On seeing the boat disappear both Enquirer and Courier, which were leading, swung back, the former reaching the scene first and pulling the helmsman and the mechanic of the Mark Twain from the water. Enquirer then went on after the other contestants, which had passed her, caught them and won the race in 36 minutes and 49 seconds for the 20-miles course.

On the following day the Enquirer won the final heat of the 25-mile free-for-all race and attained the highest speed at this year's regatta, covering the course in 39 minutes, 29 seconds, or at an average rate of 39 2/10 per hour.

The Stratford Shoals Race

THE New Rochelle Yacht Club's annual Stratford Shoals Race brought out an unusually large fleet for the night run of sixty-five miles to Stratford Shoals Light and return. Four separate classes were provided—an open class under the Universal Rule, the Larchmont one-design class, the Handicap class, and a special class for New Rochelle Yacht Club yawls. The boats started in a fine southwest breeze which lasted until they rounded the mark at the light and then petered out, giving many hours of calm to the racers. The results in the various classes were as follows, the winners being G. P. Granbery's Anita in the open class; W. H. McIntosh's Yuron in the Larchmont Interclub one-design class; C. A. Marsland's Guardia in the special yawl class, and W. H. Farrell's Señora in the Handicap class. In the yawl class the ocean racer Hyperion started at the earnest solicitation of the Regatta Committee. She rounded the light at 10:40 P. M., but later, when the long calm struck in, she abandoned the race, finishing under motor.

Regular Rating Class.—Start, 6:00 P. M.

Boat and Owner.	Finish, H.M.S.	Elapsed Time, H.M.S.	Corrected Time, H.M.S.
Anita, G. P. Granbery	12:04:45	18:04:45	18:02:02
Amoret, R. B. Budd	12:09:12	18:09:12	18:09:12
Ogeemah, A. Dealy	2:36:15	20:36:15	18:46:36
Larchmont Inter-Club One-Design Class.			
Whiff, W. R. Manny	2:48:30	20:48:30	
Yuron, W. H. McIntosh	2:14:00	20:14:00	
Lecygne, A. A. Walter	4:26:55	22:26:55	
Barbara, C. Shields	4:18:30	22:15:30	
Handicap Class.—L. I. Sound Handicap Association.			
Clare, P. C. Pfeiffer	3:55:00	21:55:00	20:43:59
Senora, W. H. Farrell	12:28:16	18:28:16	17:50:00
Pontiac, W. H. Bowes	12:12:42	18:12:42	18:12:42
Kenmuir, V. P. Krauss	4:10:12	22:10:12	20:48:06
New Rochelle Y. C. Cruising Yawls—Handicap basis.			
Guardia, C. A. Marsland	6:26:30	24:26:30	18:49:35
Hazel, T. Wondsel	5:28:50	23:28:50	21:14:05
Hyperion, W. N. Bavier	Withdrew.		
Mahdeena, W. L. Laidlaw	6:33:22	24:33:22	20:44:17
Olwyn, A. D. Seymour	4:27:30	22:27:30	19:45:48
Solita, D. Bacon	4:33:55	22:33:55	20:46:07
Respite II, W. Smith	6:01:40	24:01:40	19:32:10

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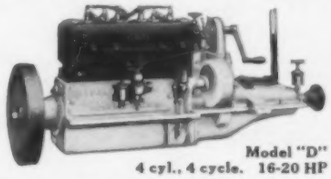

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Portland Yacht Club News

The June meeting of the Portland Yacht Club really marked the beginning of the yachting season. Owing to a cold, backward spring many of the boats which are ordinarily early in commission were late in reaching their moorings. Although we cannot this year boast of many sailing crafts, we can, however, enthuse a bit over our Power Squadron. Drills are being held every Wednesday evening, and so far the attendance has almost reached the 100 per cent mark. All the captains are anxious to participate in the drills, knowing that the different maneuvres executed are adding to their already good store of knowledge as to seamanship.

Commander Camp is proving himself a most competent officer. He is well liked by his fellow club men and is immensely popular with the captains of the power boats.

Our Vice-Commodore V. F. West has opened the racing season with several firsts at Marblehead, and we look for the Sayanora to make an even better showing than in 1914, when she broke with honors. Every one is rooting for her to bring home the championship.

Mr. Frank E. Dickerman is at his summer home "down among the islands," and will not return to Boston until the last of the season. He has just put into commission a family runabout that he may enjoy fishing trips, his cruiser Minna being too large for the shore trips.

Mr. Oom Mills says he's so busy this season with his social affairs he can't find time to go yachting. Too bad—and he's a good fellow, too.

The annual Power Squadron cruise was held July 3-4-5.

This year the annual cruise of the yacht club was held in conjunction with the Boston Yacht Club. There was a dance at the Peaks Island House in honor of the Boston sailors, and the next morning the boats of the Portland Yacht Club joined them in the sail to Christmas Cove. The objective point was Camden, Penobscot Bay.

Commodore Dyer's Clique is looking like a wedding present. He has been out several times and sailed to the westward to meet the Boston Club, just to show them the way home.

Nearly a dozen new members were admitted at the last meeting of the club, and indications point toward another dozen at the next meeting. Two or three more additions of this size will seal our membership, as it is now well over the four hundred mark.

Already many visiting yachts have registered at the club house. It would seem that 1915 should be a record-breaker and that we shall see more strangers than ever before.

The visit of the Eastern Yacht Club early in July brought into the harbor a big fleet of New York and Massachusetts yachts, including many of the crack racing boats on the coast. Among them were Commodore H. S. Vanderbilt's schooner Vagrant and E. W. Clark's Irolita; while among the sloops were the Avenger, Shimna and Dorello II. The fleet anchored off Peak's Island, but the Portland Yacht Club was used as a shore station by the yachtsmen.

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New Rochelle Yacht Club News

The entertainment committee has certainly been on the job this season and there has been something unusual doing every week. Ben Badeau's literary efforts have been largely instrumental in whetting everybody's curiosity and getting them down to the club, if it was only to see what was going on. On July 5 the club and grounds were taxed to their capacity with one of the biggest gatherings of members and their guests the club has ever seen. There were water sports, fireworks, fire-water, a fine sailing breeze, and everything necessary to make the day complete. The club launches handled over 900 passengers between 5 P. M. and 1 A. M. the following morning, which is some record for two boats, and reflects great credit on H. M. Betts, on whom the ferry service was "wished" last May.

Stratford Shoal Race

The Stratford Shoal race was held July 10, the boats being sent away at 6 P. M. There was a good-sized fleet of yachts, considerably larger than last year, and in order to make the race more attractive the fleet was divided into four separate classes—one for boats sailing under the rating rule, one for the Handicap Class, one for the Larchmont inter-club one-design class, and another for the yawls enrolled in the New Rochelle Yacht Club. The winners will be found on page 78.

A Ladies' Day was celebrated on July 14, the men being allowed on the Island, according to the entertainment committee, only on sufferance until the evening. There were card games all the afternoon with a specially prepared dinner and a cabaret show, after which there was dancing. This is where the men made good. Taking it all in all it was a particularly enjoyable occasion.

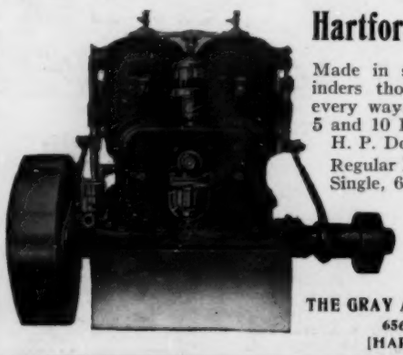
There has been considerable comment as to overcrowding at some of the dances by those who are not members of the club, and who have frequently gotten on the Island without guest cards. In order to make it more comfortable for everyone on dance nights, the Board of Trustees has deemed it advisable to hereafter require each person to have a ticket of admission. Members may obtain two guests' tickets upon application at the club; for more than two tickets there will be a charge of 50 cents per ticket, admitting one person. These tickets will be taken up at the shore station and must be signed by members. This ruling does not apply to members accompanied by their immediate families or to members and guests having dinner reservations.

At this writing the new dinghy float is promised for this week. We understand that our secretary, who has the matter in charge, has been "ragged" a little about its non-appearance. Never mind, better late than never. When it arrives it is said that it will hold twenty boats. 'Tis rumored that "Charley" will take it with him as a tender for the Guardia on his next cruise to Lloyd's.

The thirtieth anniversary of the founding of the club will be celebrated in August by a three-day fête. This will include an entertainment, a dance, a race or water sports, etc. The dates selected, to be approved later, are August 5, 6 and 7. This will take the place of a formal club cruise, which is usually held the first week in August, and at which in late years it has been hard to get a really representative fleet to carry through to the end. Let everyone pull together to make this thirtieth anniversary one to be remembered for the next thirty years.

Many new members are up for election at the next trustee's meeting. The initiation fee has been suspended for thirty days, and everyone is using their best endeavors to get new members to sign applications.

George Malloy, chairman of the regatta committee, announces that if enough of the club's big fleet of yawls will enter the club regatta of August 28 they will be divided into two divisions instead of one, so that *everyone* will have a chance to win a prize, and the fast boats will not have to be raced against the slower ones. Yawl owners had better make application for entry blanks at once.



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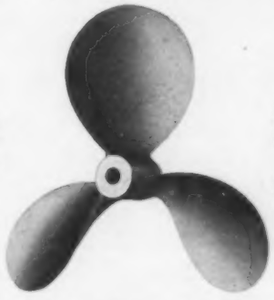

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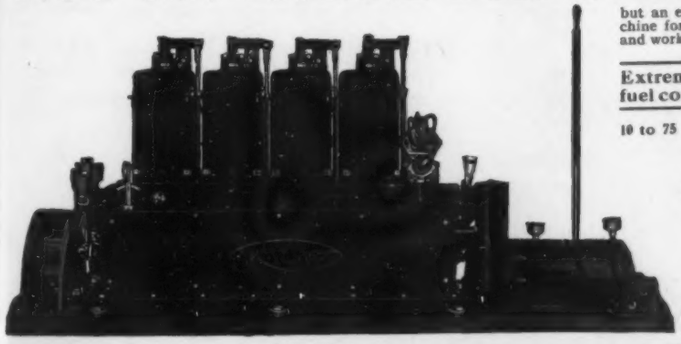

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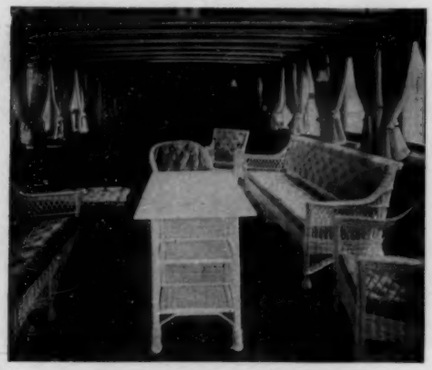

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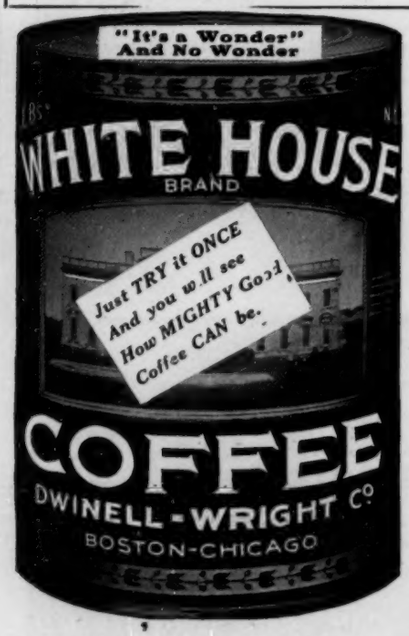

Some Useful Notes on Yacht Construction

(*Continued from page 74*)

the center line of the keel. This naturally weakens the boat there and some reinforcement must be fitted. This is done by the trunk logs, which are placed on top of the keel and well bolted to it, and which usually carry the ballast bolts. There is no chance to get floors through the trunk, so they must be tied to the trunk logs. This may be done by metal straps, or by dovetailing the floors into the logs. A good method is to dovetail the floor into the trunk log and then drive the frame in alongside of it, locking it tight. A heavy floor is fitted at each end of the trunk to tie the boat together at that point. Sometimes the floors are let into the keel—that is, fitted into a groove cut in its upper surface and the trunk logs jogged down over them. This method is expensive if well done, and is of little use if poorly done. The illustration shows a natural crook floor so treated.

Sometimes the trunk logs are wider than the keel and back up the garboard strake, thus giving a solid surface to caulk against. In the illustration the seam between the log and the keel could not be caulked. This seam is generally made tight by fitting canvas and thick white lead, or by a long white pine stop-water, or sometimes by lampwick and white lead. The centerboard trunk is worked on top of the trunk logs and the bottom plank of the trunk is often tenoned into the top of the log. This should be done as shown in the diagram, so that the vertical seam is outboard and may be caulked if necessary. The sides of the trunk may be of heavy tongued and grooved stuff, or a separate tongue of dry pine may be fitted. The trunk should be fairly heavy, as it has to stand the twist and thrust of the centerboard.

Clamps, Shelf and Stringers

The heel of the frame is fastened to the keel and to the floor timbers. The head of it must also be held in position, and this is done by a longitudinal member called the clamp. The clamp also helps to support the deck beams and is an important strength member. It is bent in against the inside of the frames and close up to the under side of the beams. Sometimes it extends above the lower edge of the beams and is notched to receive them. It usually runs of uniform size about half the length amidships and is tapered in depth and thickness towards the ends. Alongside of the clamp, close under the beams, is the shelf. This also is sometimes notched for the beams. It is fastened to the clamp and frame (sometimes through the sheerstreak) and the beams are fastened down to it. At the bow the connection between the clamp on each side is made by a breasthook, a piece of wood fitted between the beams to which the clamps are fastened. At the stern is

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usually a small horizontal knee, called a lodging knee, which fastens the clamp to the transom or sternboard.

(To be continued)

To Each Man His Craft

(Continued from page 62)

"Can we run inside of her?" the Skipper shouted from the wheel.

"No!" I cried, "there are reefs all around. For the love of heaven go about: we're near on top of them now!"

"No use to tack ship," he observed coolly. "She won't go to windward when she's in ballast. No freighter will—to amount to anything. She's only drawin' eight feet: you're sure we can't chance it?"

"There are no reefs showing here at low water," I ventured. "It must be half-tide now; she might go over—with luck."

The Skipper's eyes narrowed: "She's *got to*," he said quietly; "there ain't anything else."

The cook came out on deck, looked the situation over, and without an order being given, made his way quickly but without unseemly haste to the eyes. There he stood, hatless and with his apron still on, peering ahead into the driving fog, alert to give instant warning of a suspicious swirl in the water, while the old Genevieve with a half gale tugging at her bellying canvas tore ahead in her mad rush to shelter or destruction.

Seconds passed. Nothing untoward happened: the tension began to relax. "I reckon we fetched one of the low spots in that reef," the Skipper mused grimly.

Then, "Buoy on the weather bow!" sang out the cook. "It's a black spar."

"The eastern end of the ledges!" I yelled. "You've *got* to leave *that* to port!"

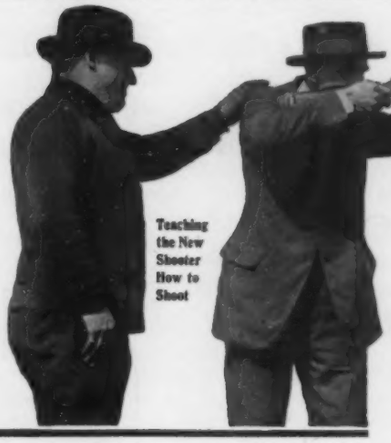
"Oh, there she is!" The Skipper ducked down for a better view. "Reckon I c'n shave *her*."

He paid the vessel off to get a good rapfull of wind; then, quick as a cat, he hove her helm hard down. The schooner rounded sharply up and charged with thundering, thrashing sails straight into the wind's eye up to the buoy—then she swung off when almost on top of it into the fairway and safety!

The Skipper looked at me and grinned: "That's the only way to get one of these here vessels to go to windward," he said.

Surreptitiously—very much so in fact—I scanned a time-table about an hour later while we were peacefully lying at anchor in New London harbor. It showed me that quite shortly a train was due to leave going west; and further study developed the interesting fact that this train would get me home in time for dinner. That settled it!

So the cruise turned out to be regrettably short, so far as I was concerned; but at least I had learned why it is that the coasters always wait for a fair wind.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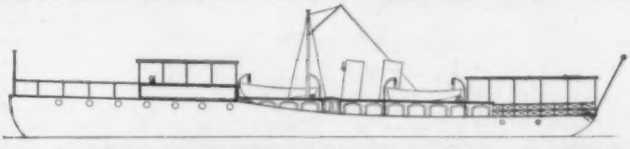

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